



# CEMENT BOND LOG

Mesa Wireline

Company ENCANA OIL & GAS (USA) INC  
Well CRANDELL 23-26  
Field WATTENBERG  
County BROOMFIELD  
State COLORADO

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Well CRANDELL 23-26  
Field WATTENBERG  
County BROOMFIELD State COLORADO

Location: API #: 05-014-20704-0000  
SHL: 1755' FSL & 1008' FWL  
BHL: 1987' FSL & 1965' FWL  
SEC: 26 TWP: 1N RGE: 68W  
Permanent Datum GROUND LEVEL Elevation 5217'  
Log Measured From KELLY BUSHING = 13'  
Drilling Measured From KELLY BUSHING  
Other Services  
NONE  
Elevation  
K.B. 5230'  
D.F. 5229'  
G.L. 5217'

Date 9 NOVEMBER 2011

Run Number	ONE
Depth Driller	8703'
Depth Logger	8668'
Bottom Logged Interval	8668'
Top Log Interval	4200'
Open Hole Size	7.875"
Type Fluid	WATER
Density / Viscosity	~8.3#
Max. Recorded Temp.	260 DEG F
Estimated Cement Top	4420'
Time Well Ready	N/A
Time Logger on Bottom	N/A
Equipment Number	10901 PRD01
Location	AULT, CO
Recorded By	Z. EMICK
Witnessed By	T. MAJORS

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12.25"	0'	1100'				
TWO	7.875"	1100'	8720'				

Casing Record		Size	Wt/Ft	Top	Bottom
Surface String	8.625"	24#	0'	1088'	
Prot. String					
Production String	4.5"	11.6#	0'	8703'	
Liner					

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

## Comments

LOG CORRELATED TO PSI HIGH RESOLUTION INDUCTION LOG DATED 3 NOVEMBER 2011  
SHORT JOINT 7584' - 7606'

WE APPRECIATE YOUR BUSINESS, MESA WIRELINE LLC, GRAND JUNCTION CO. (970) 257-0458



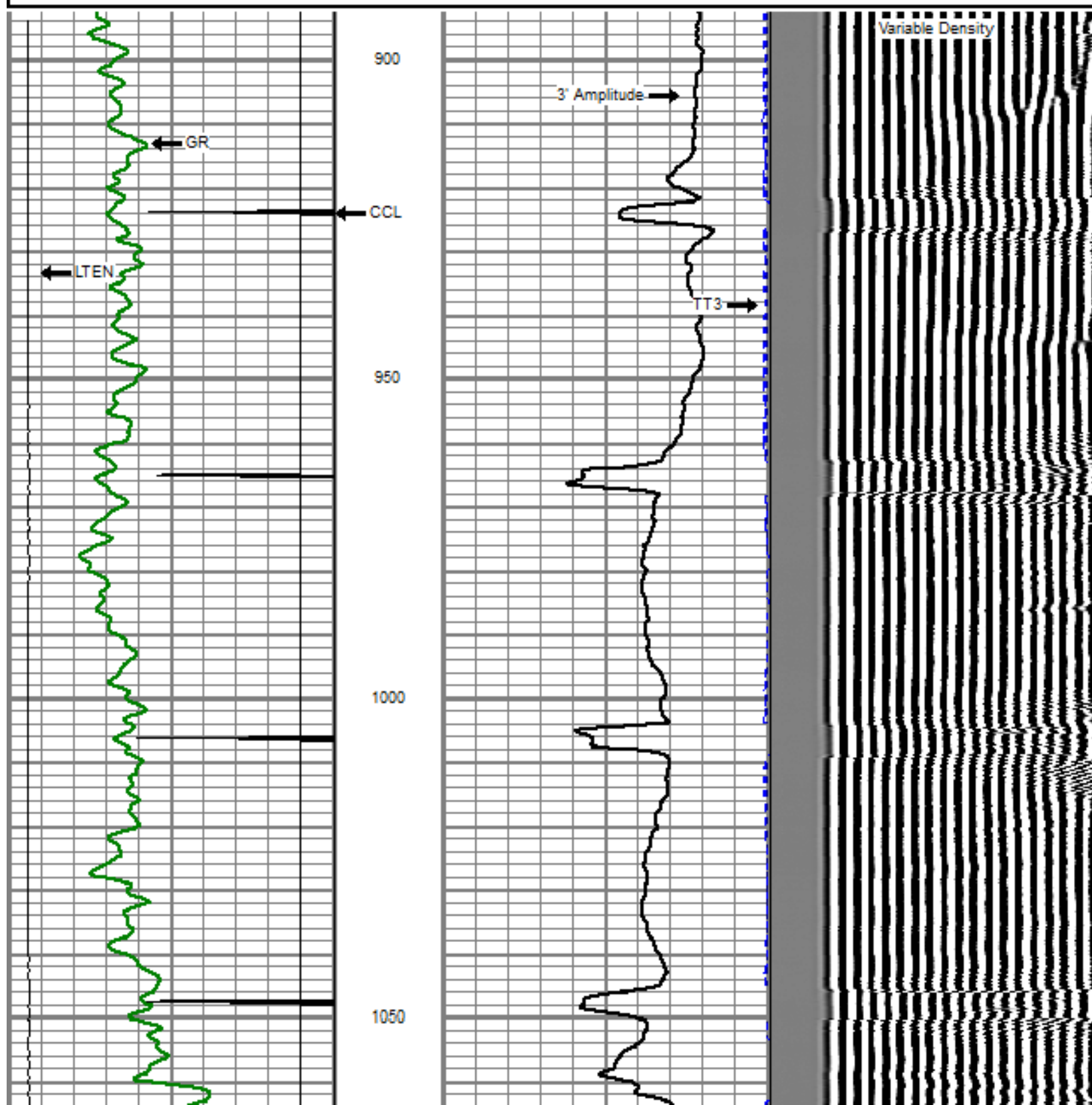
TOP PASS

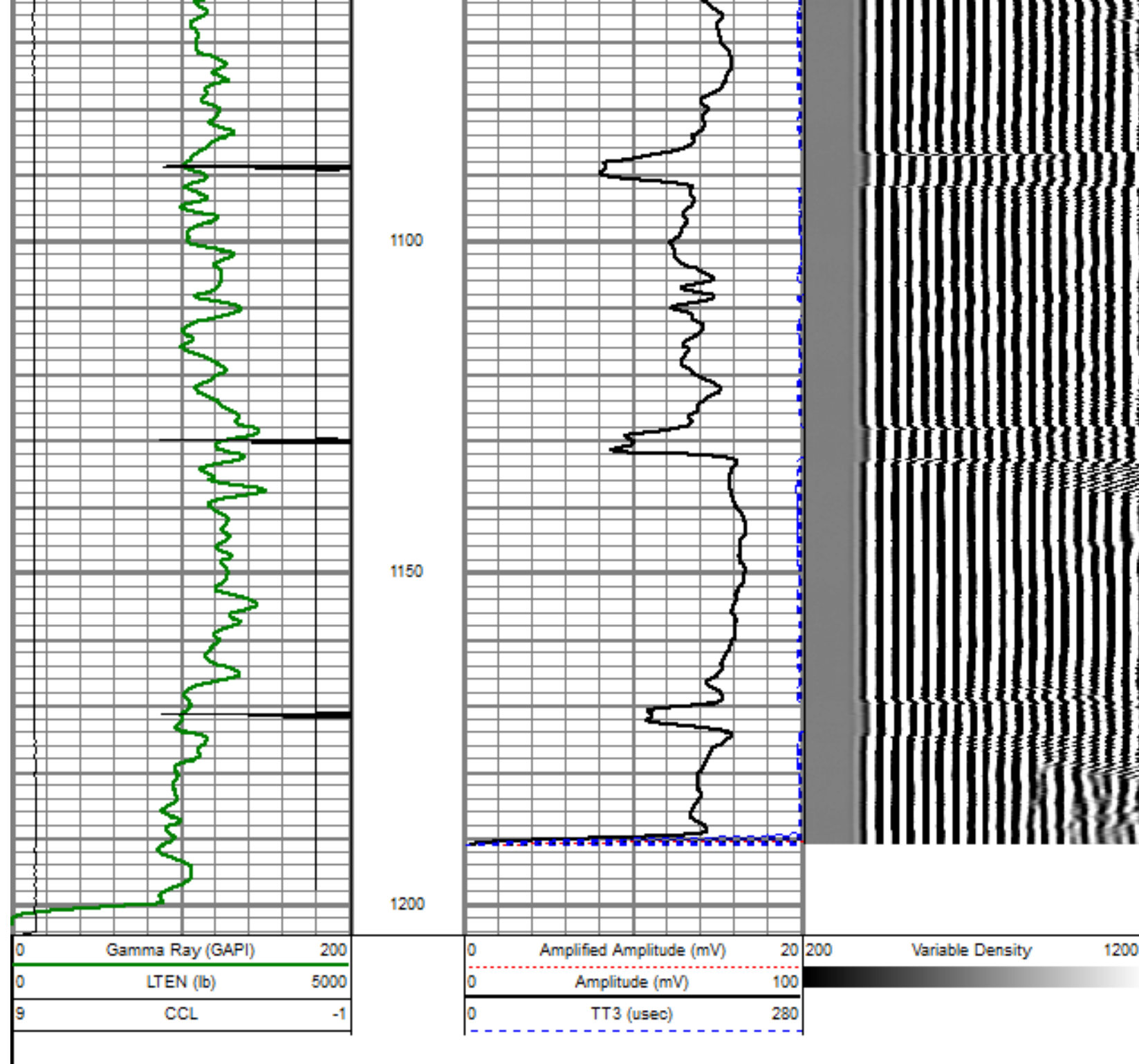
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Dataset Pathname: pass7.1  
Presentation Format: dobl\_prb  
Dataset Creation: Wed Nov 09 15:06:11 2011 by Calc SCH 110722  
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	200
0	LTEN (lb)	5000
9	CCL	-1

0	Amplified Amplitude (mV)	20
0	Amplitude (mV)	100
0	TT3 (usec)	280

200 Variable Density 1200

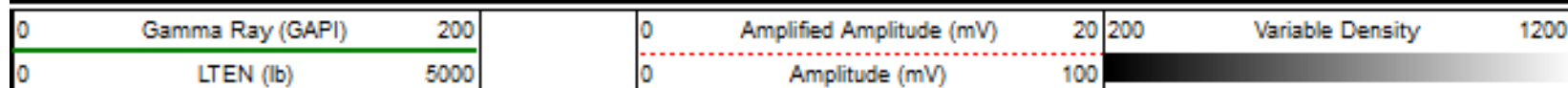




## REPEAT PASS

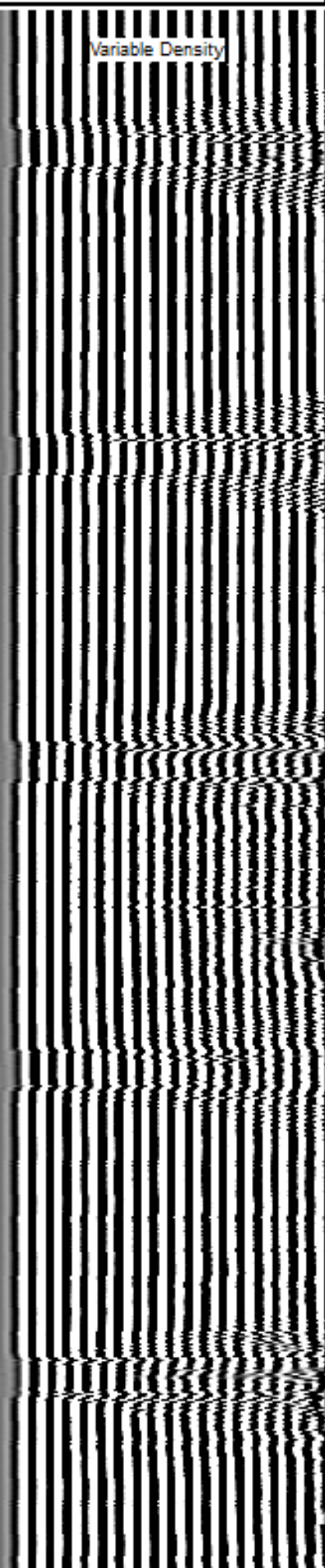
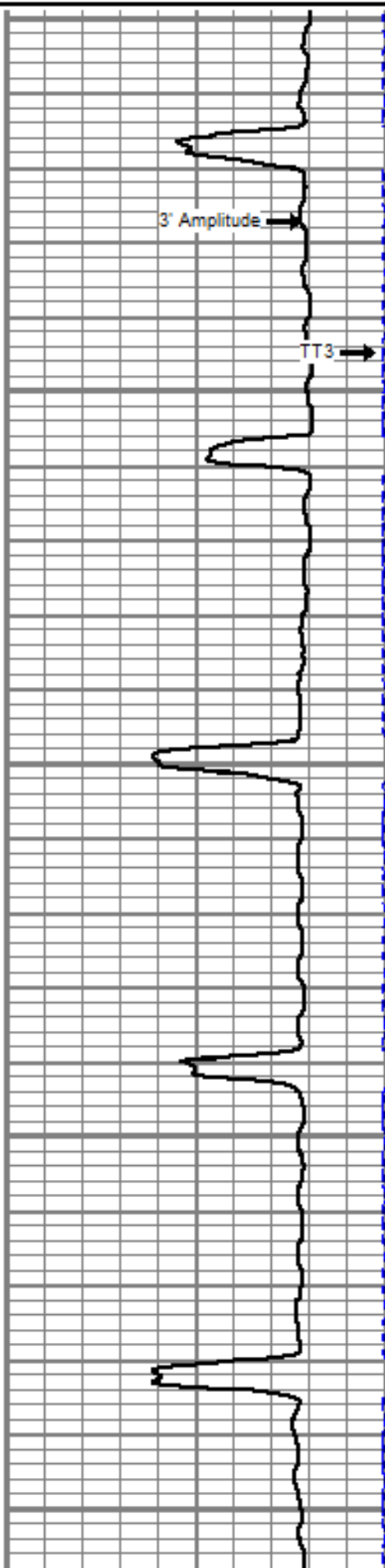
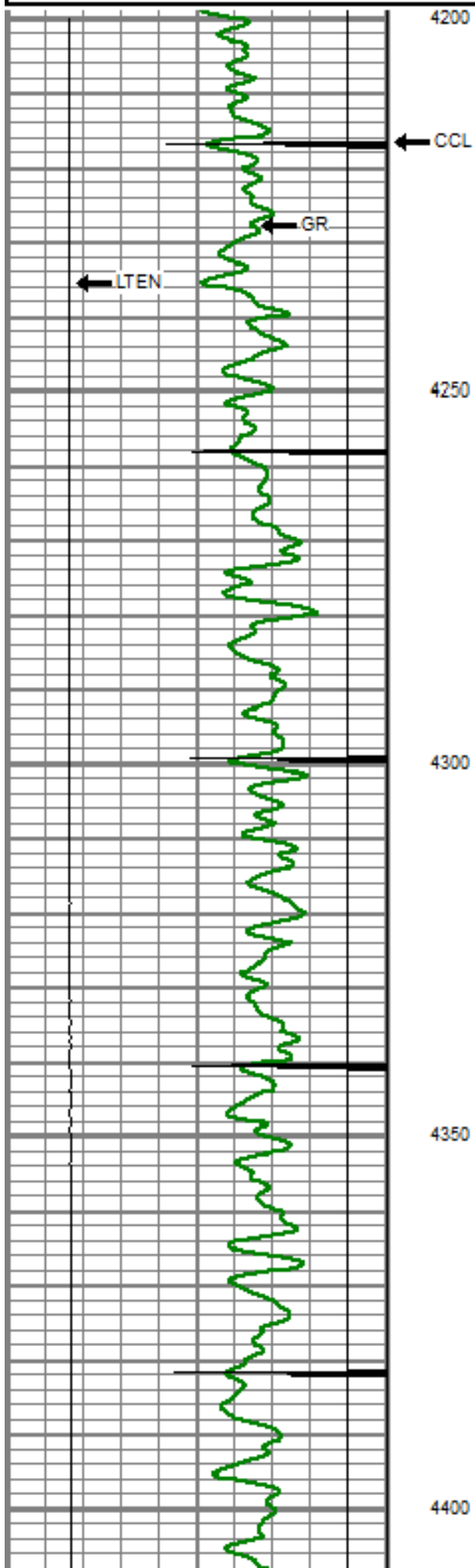
5" = 100'

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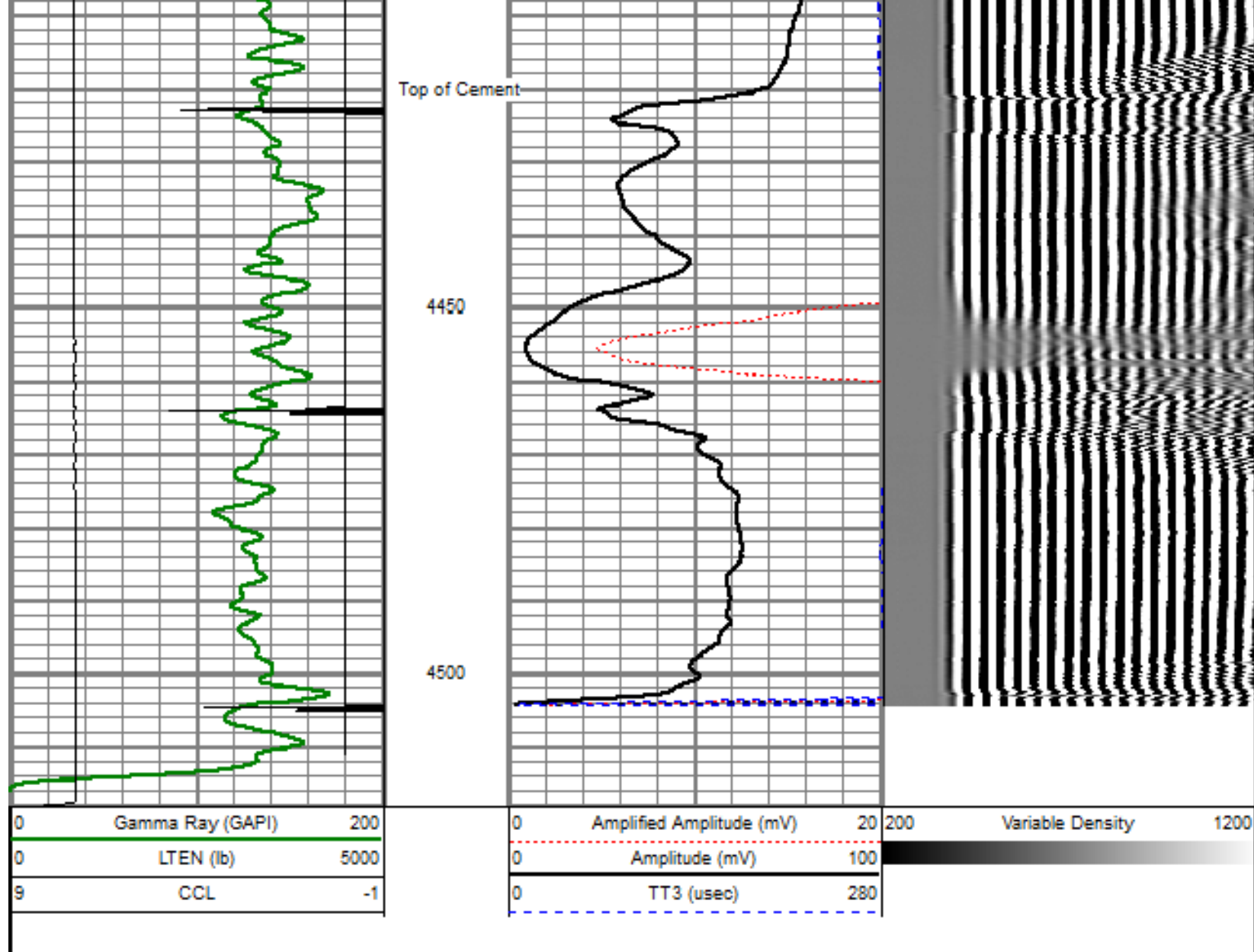


9 CCL -1

0 TT3 (usec) 280



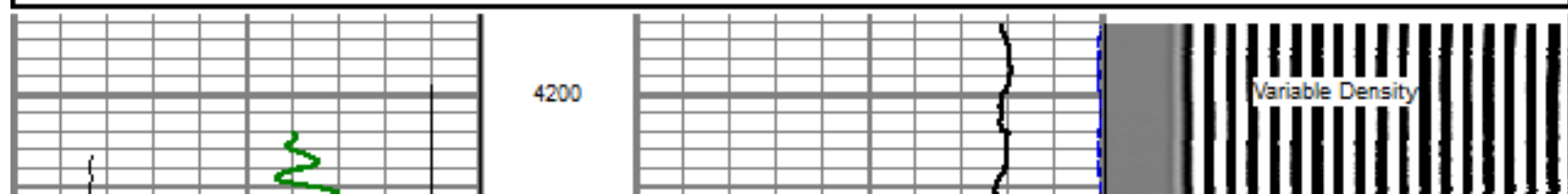
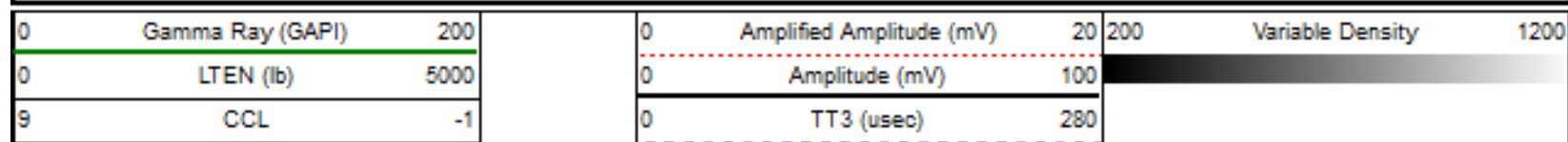


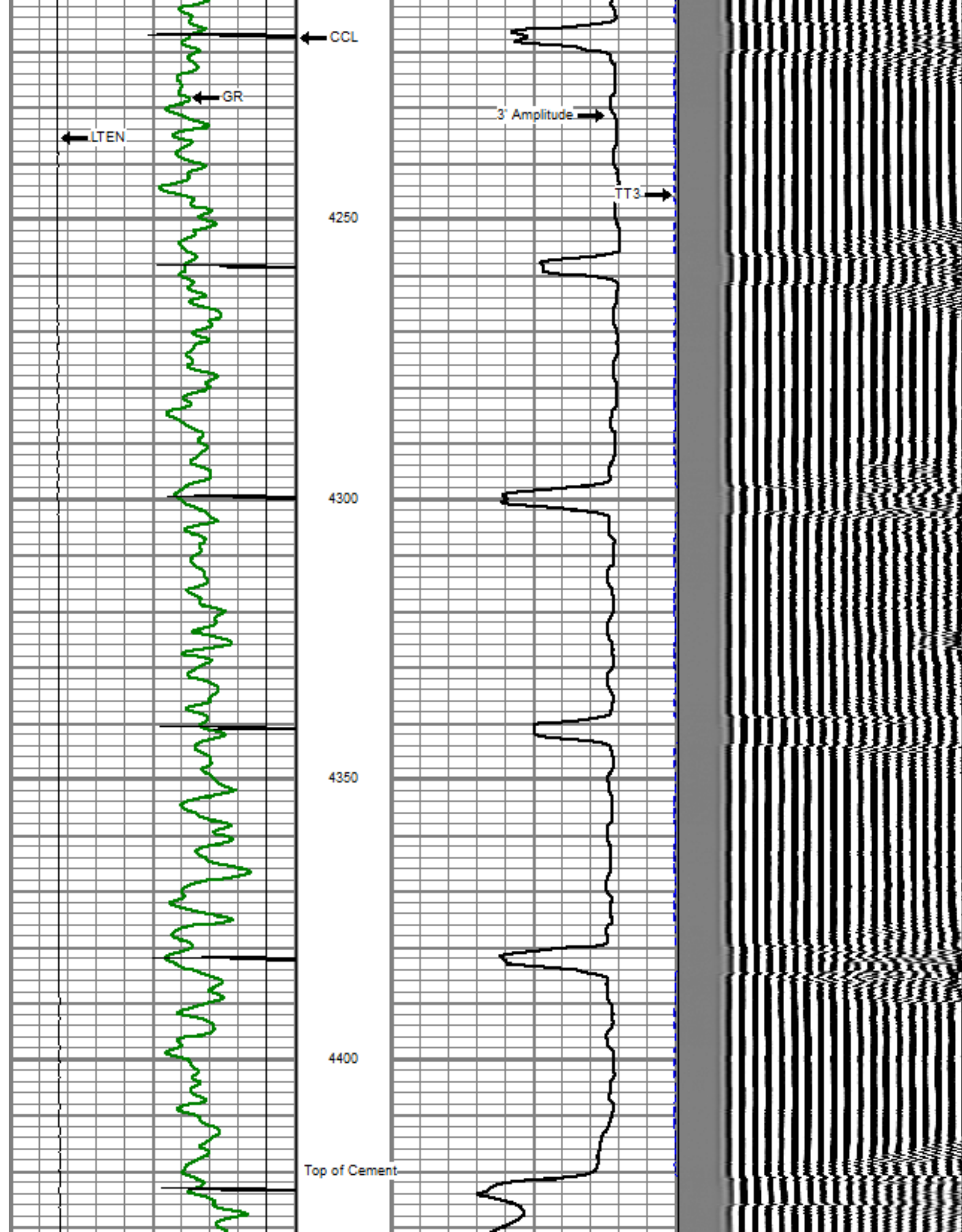


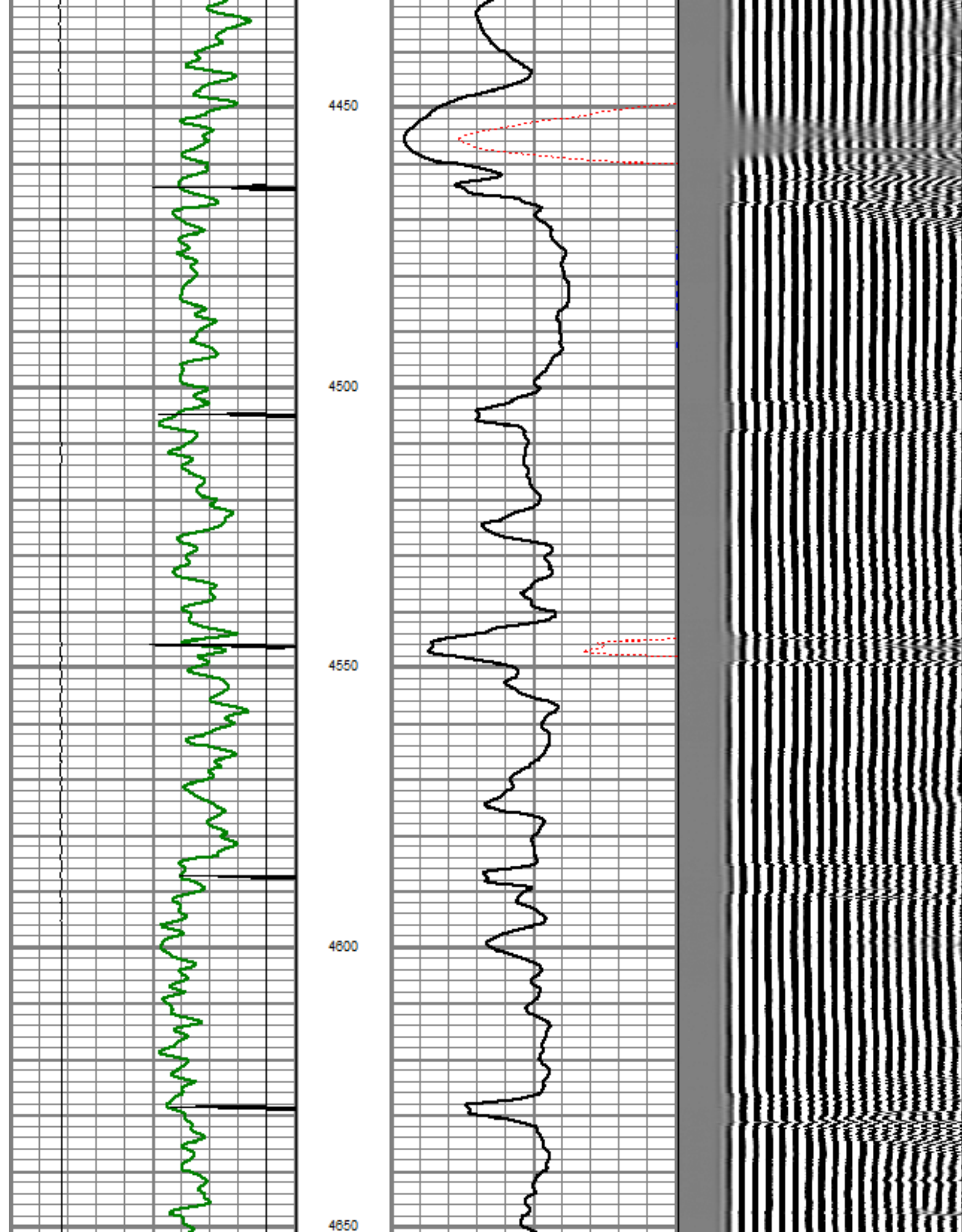
## MAIN PASS

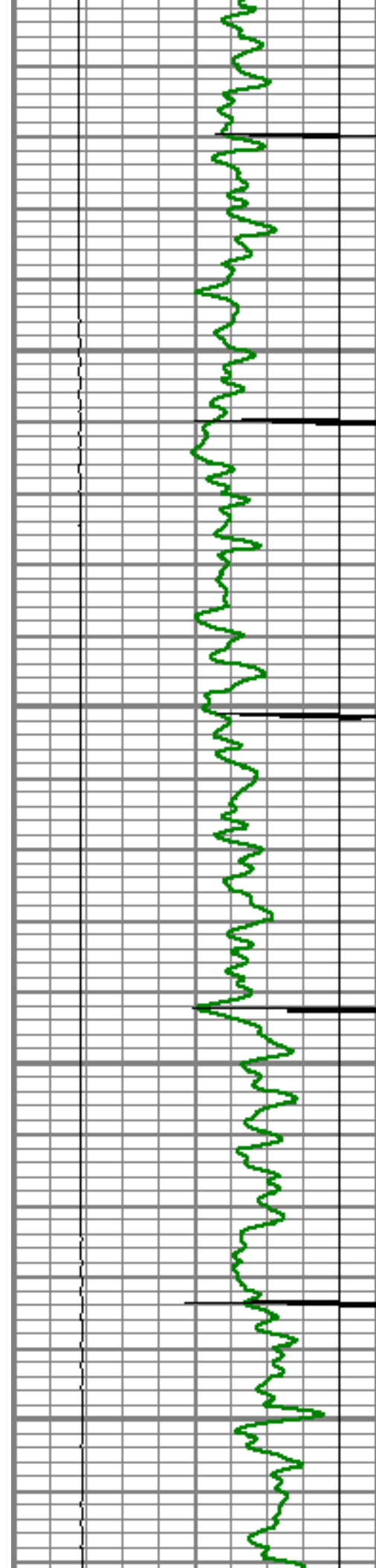
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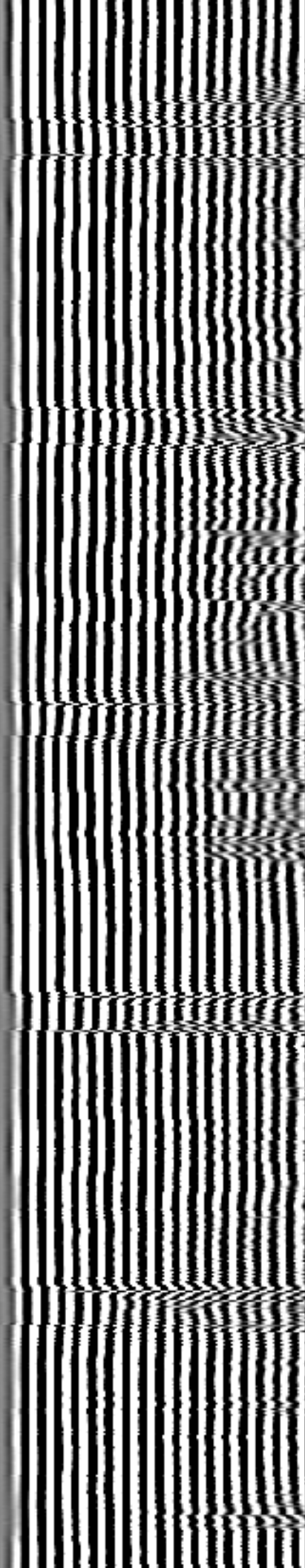
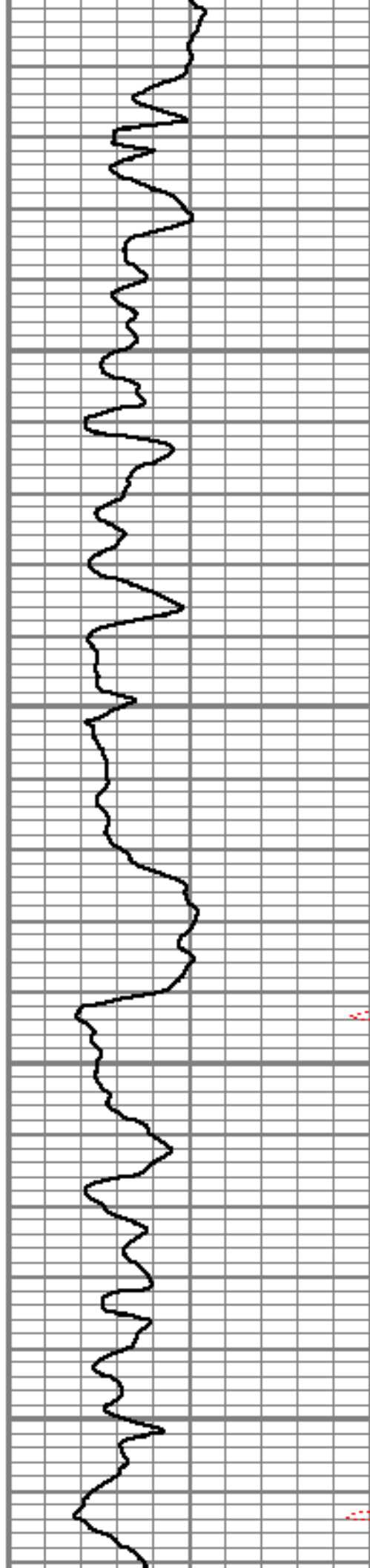


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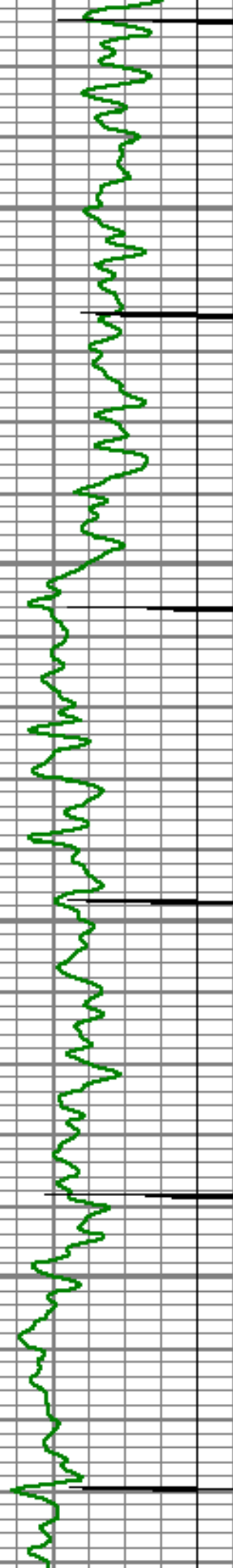
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4850





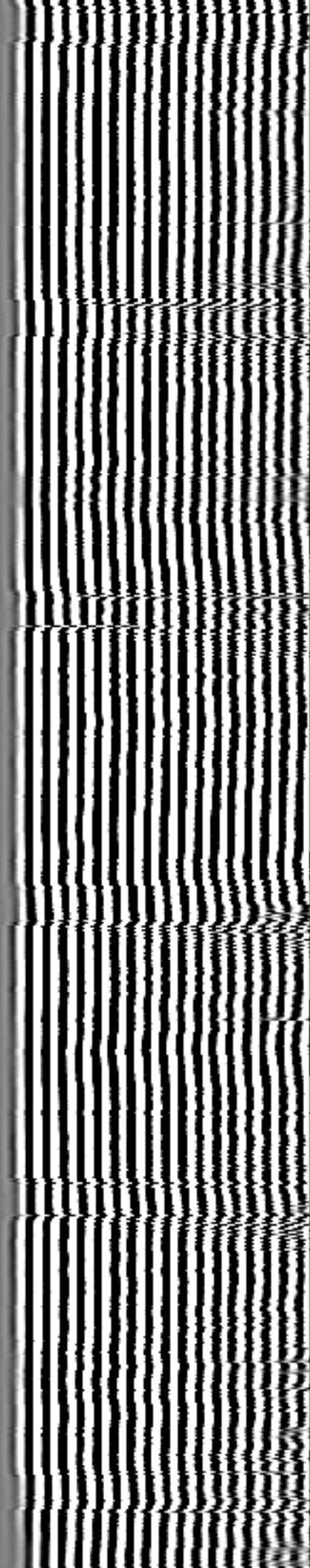


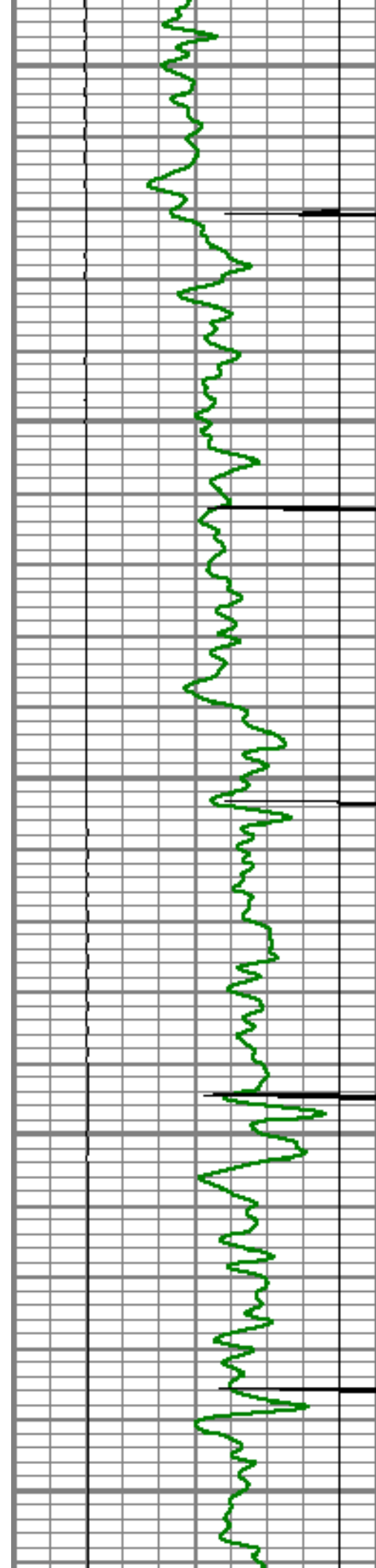
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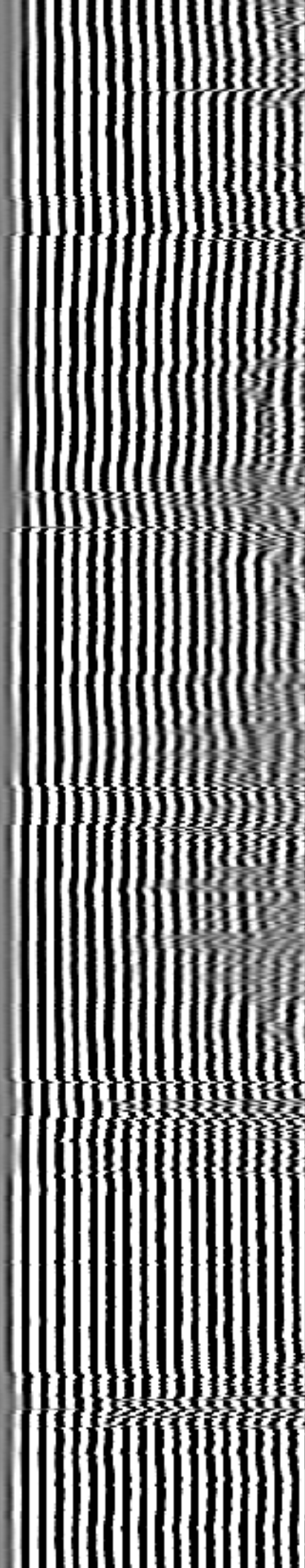
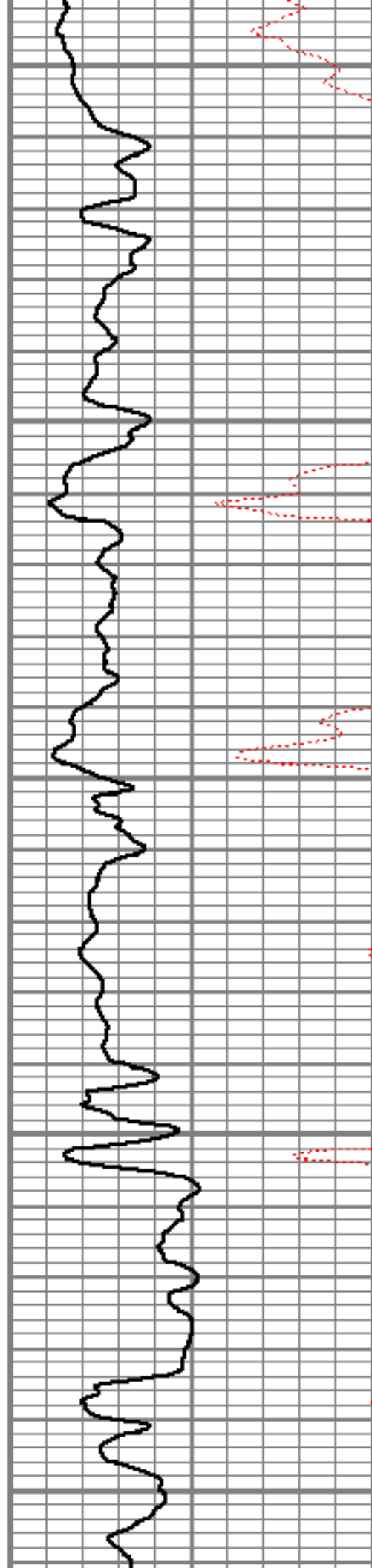
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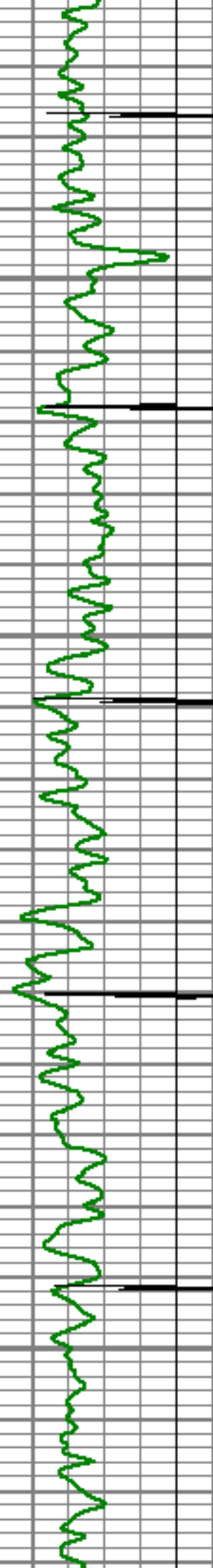
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5200

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5300



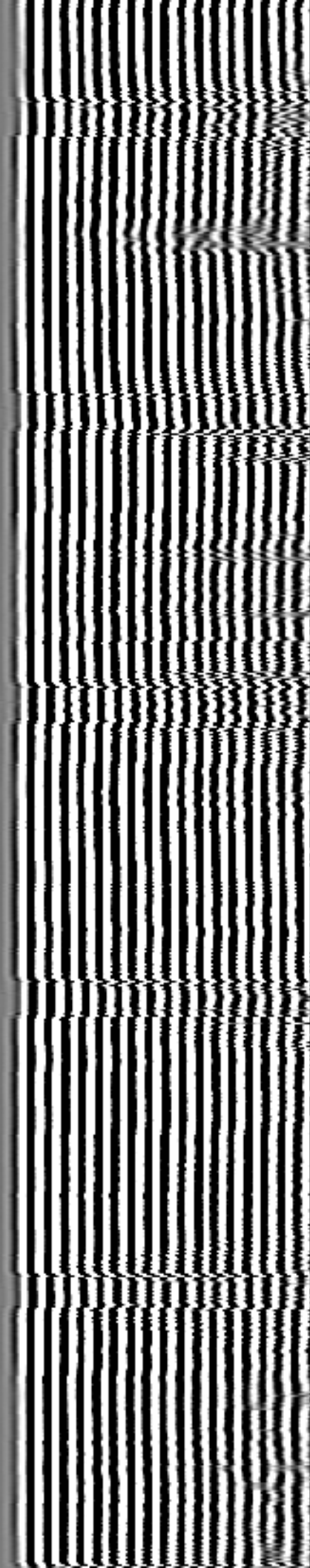
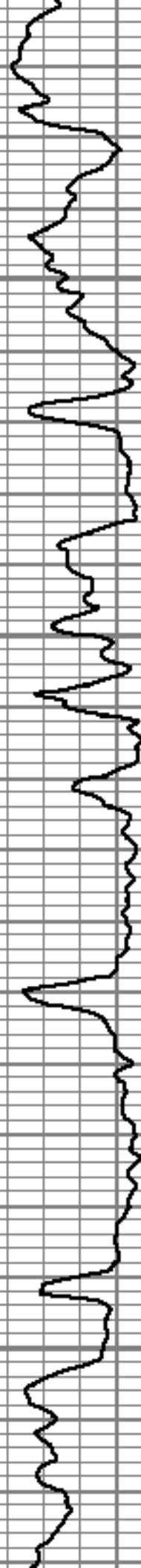


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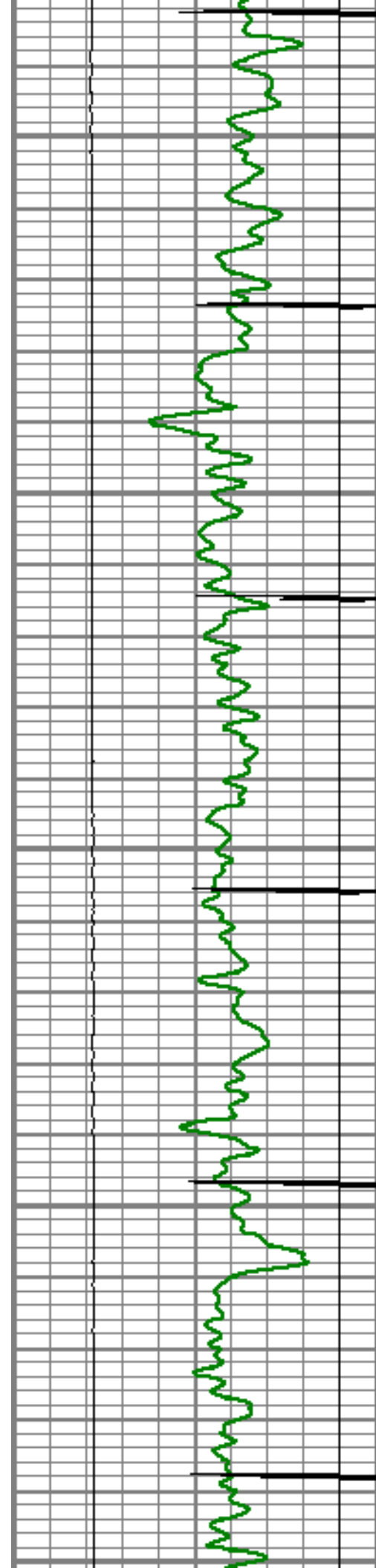
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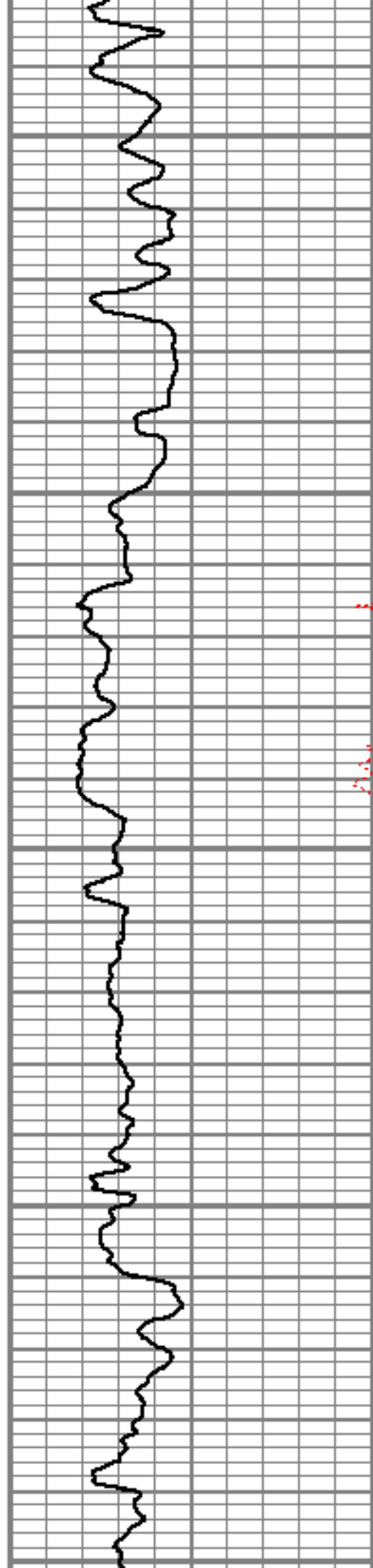
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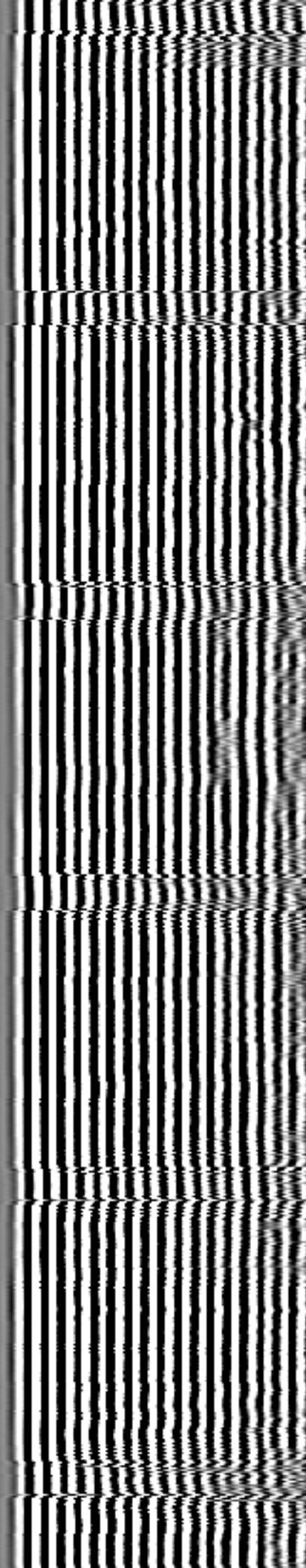
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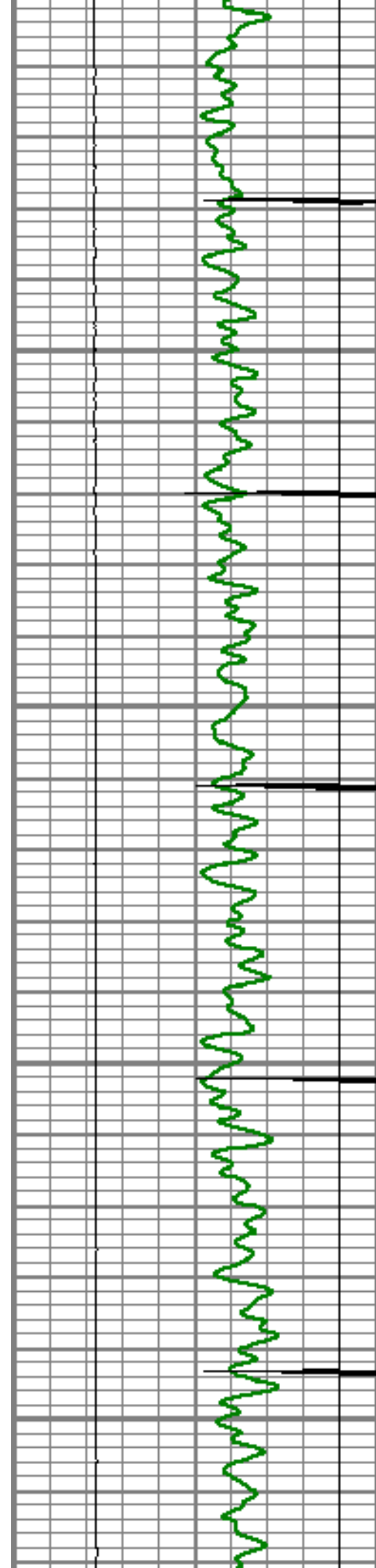
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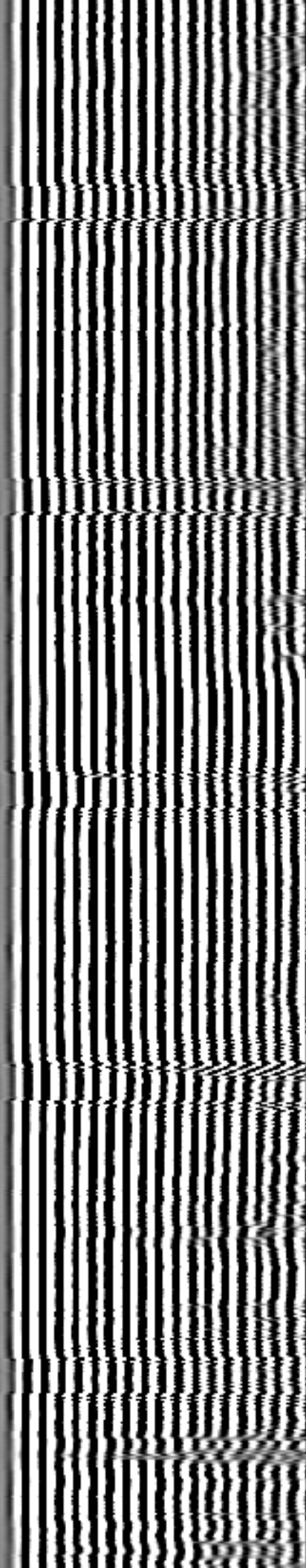
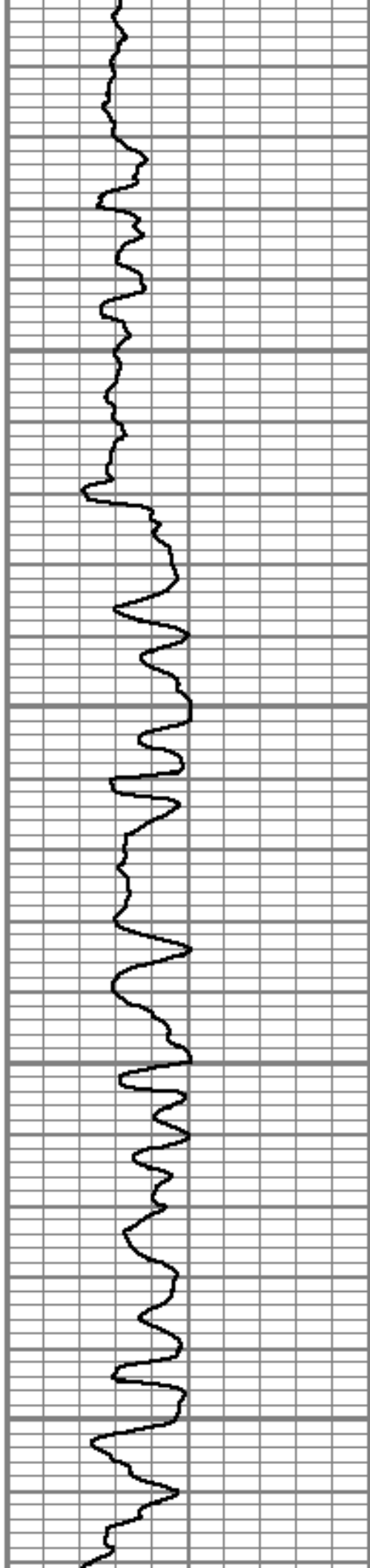


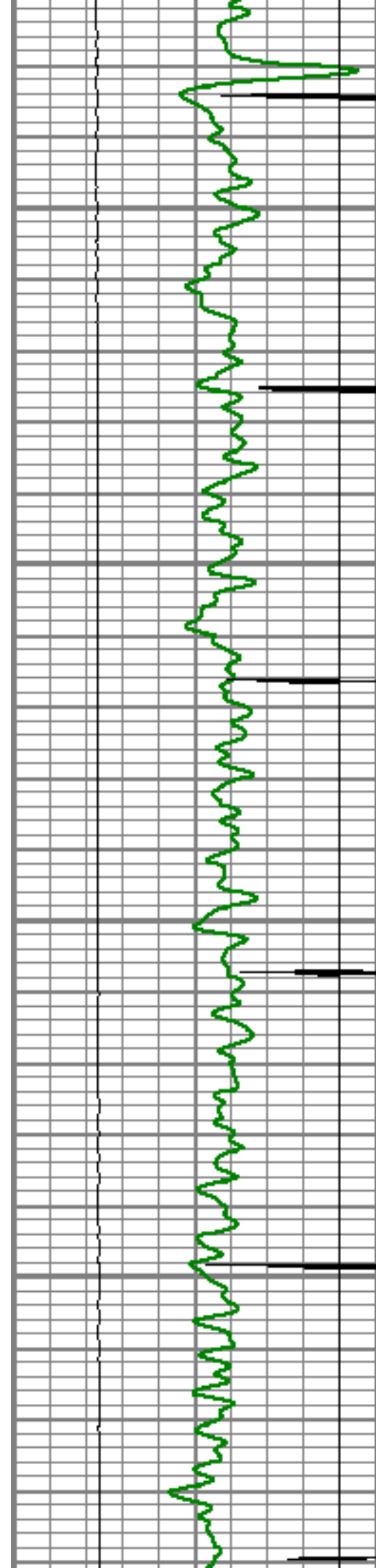
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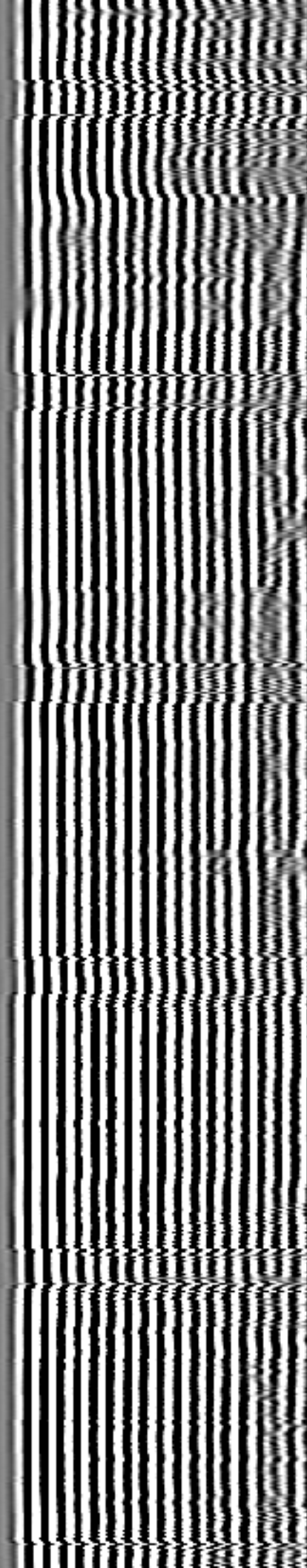
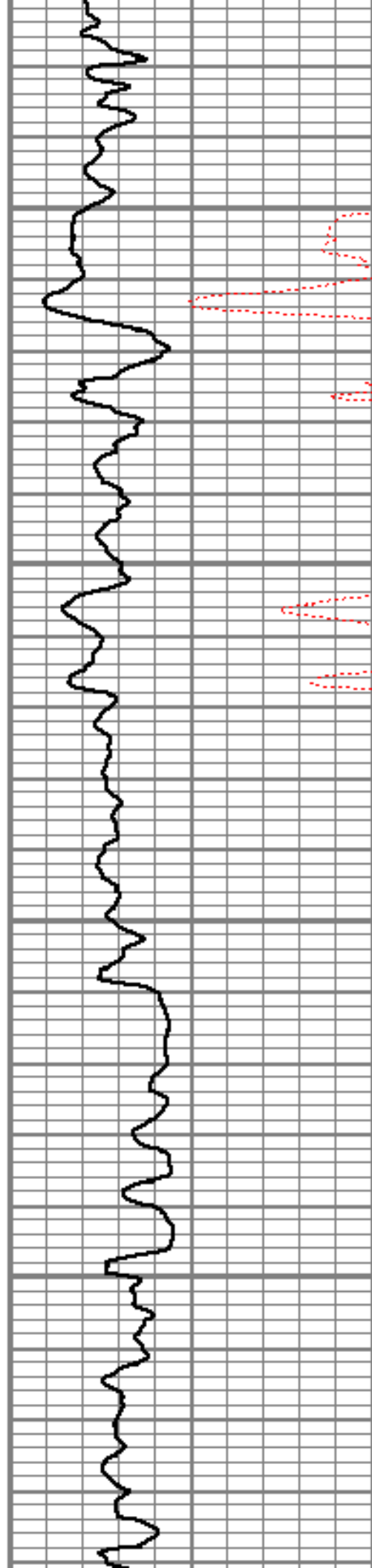


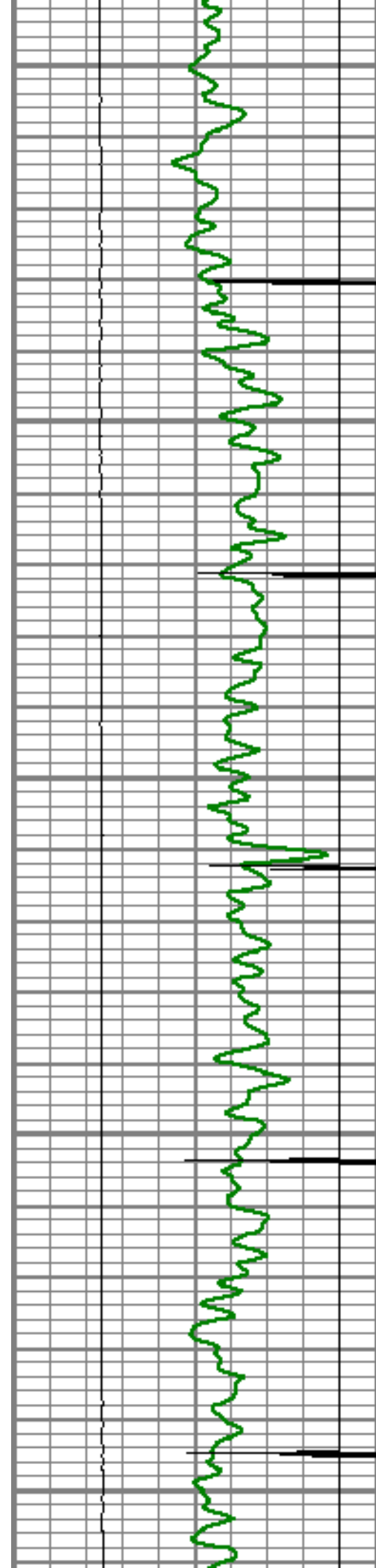
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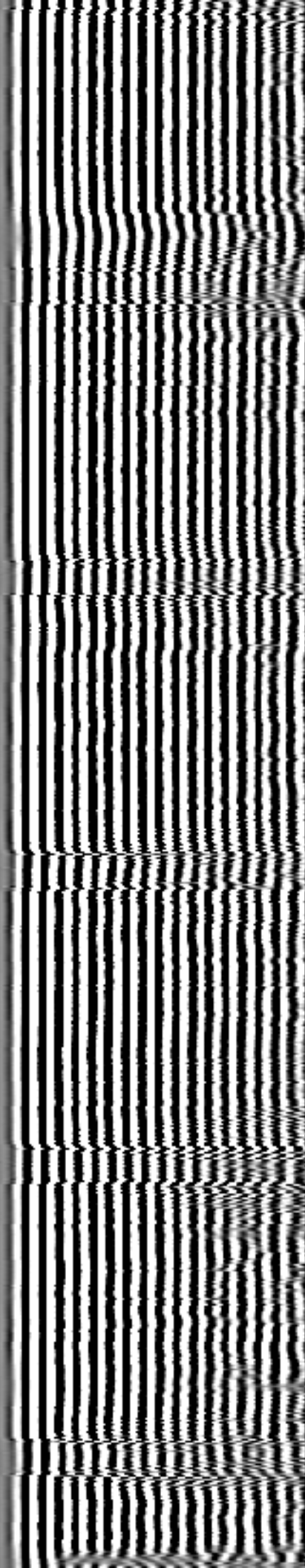
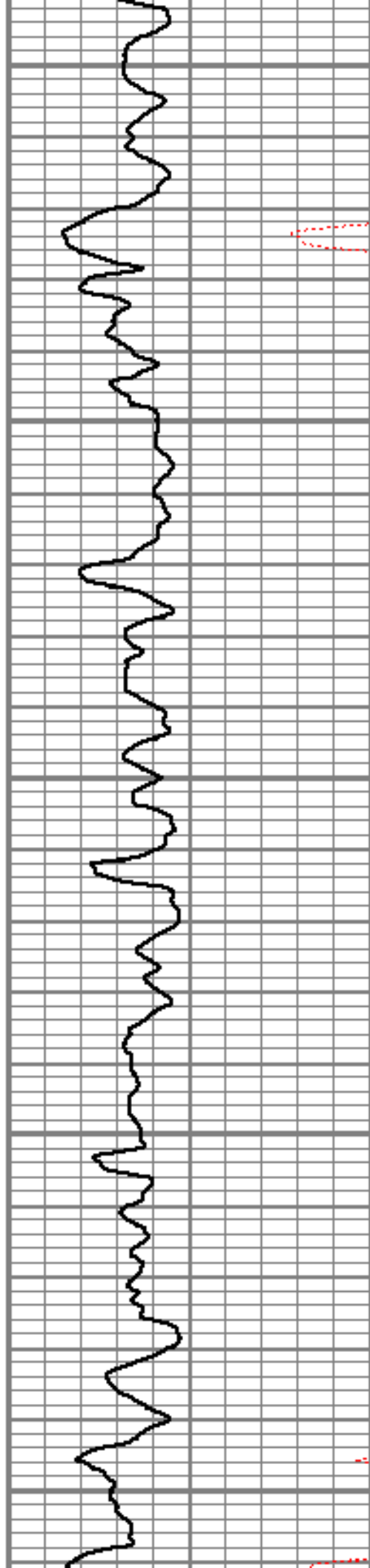
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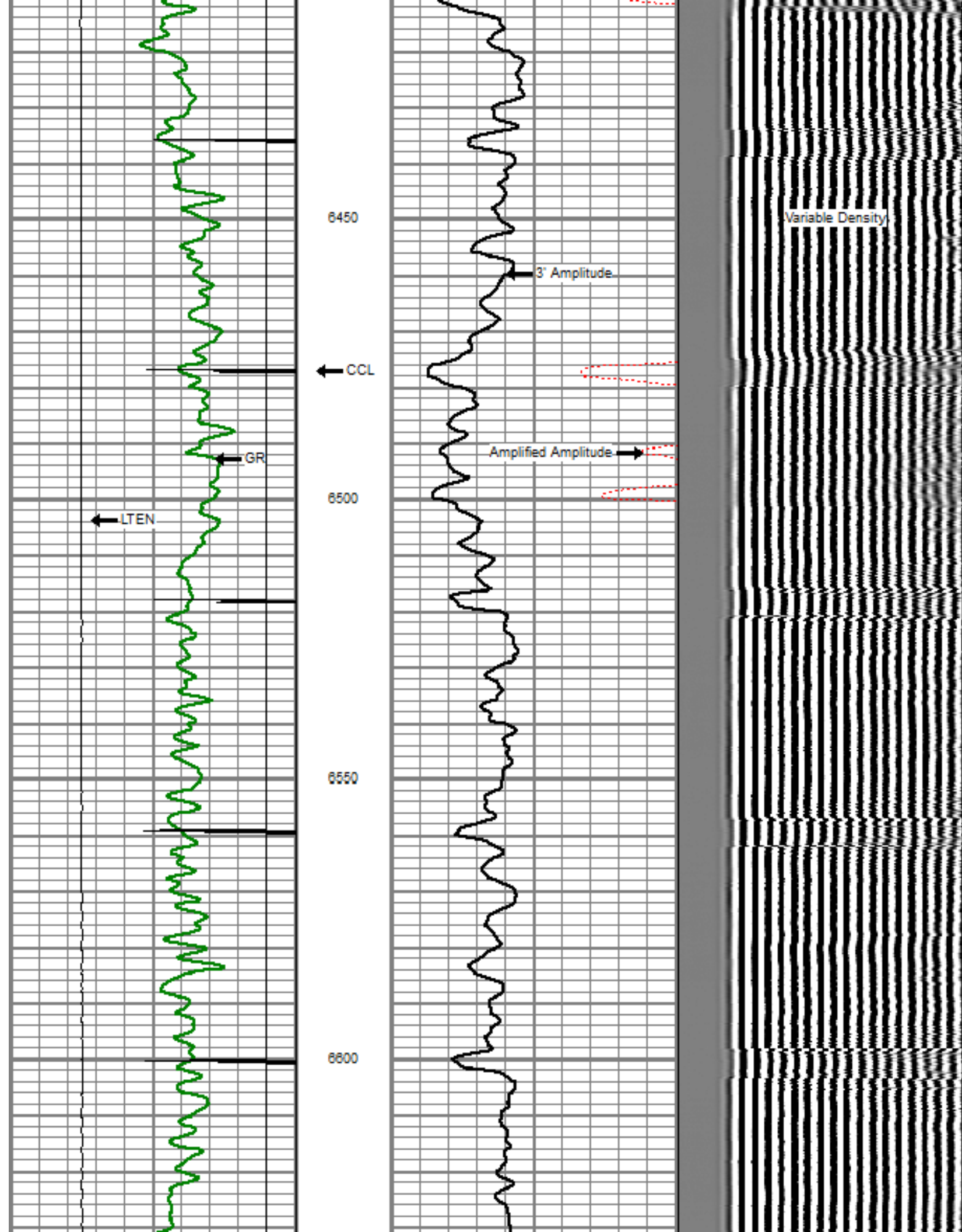
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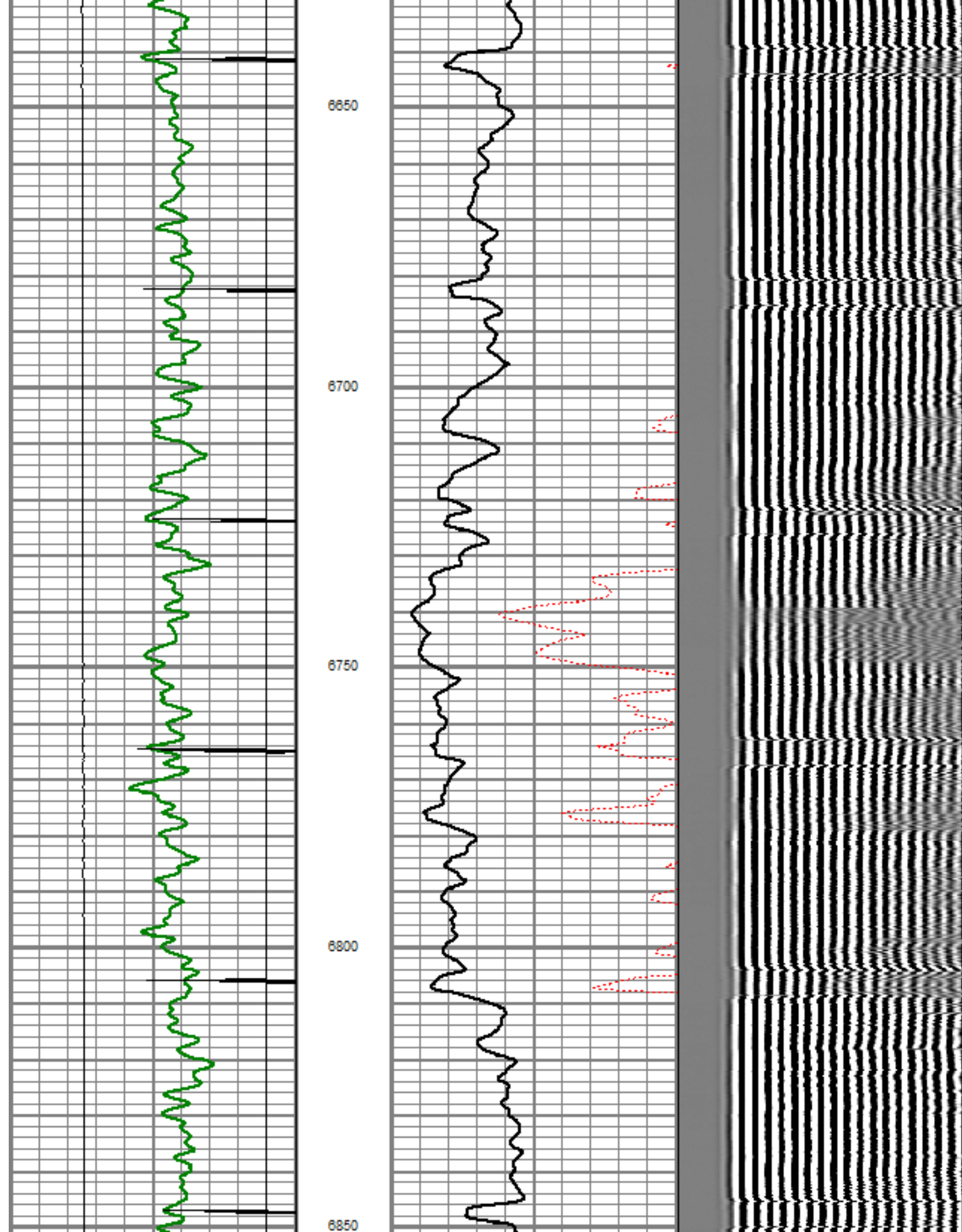
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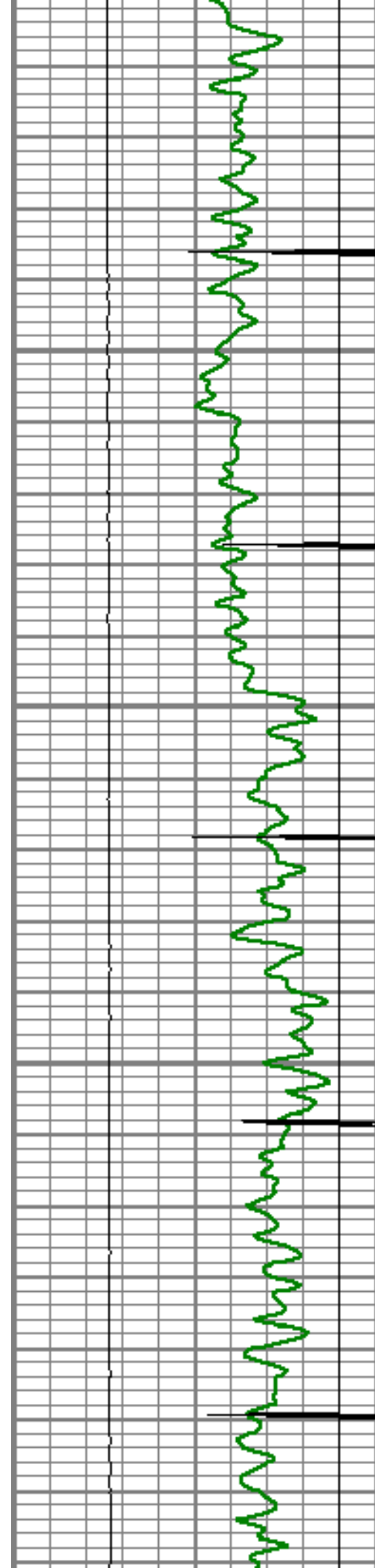










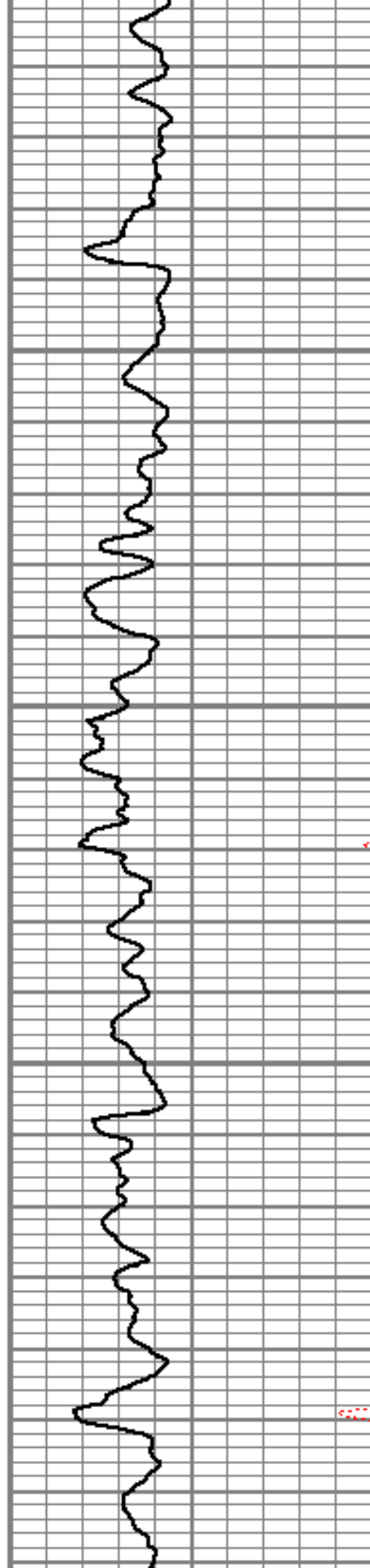


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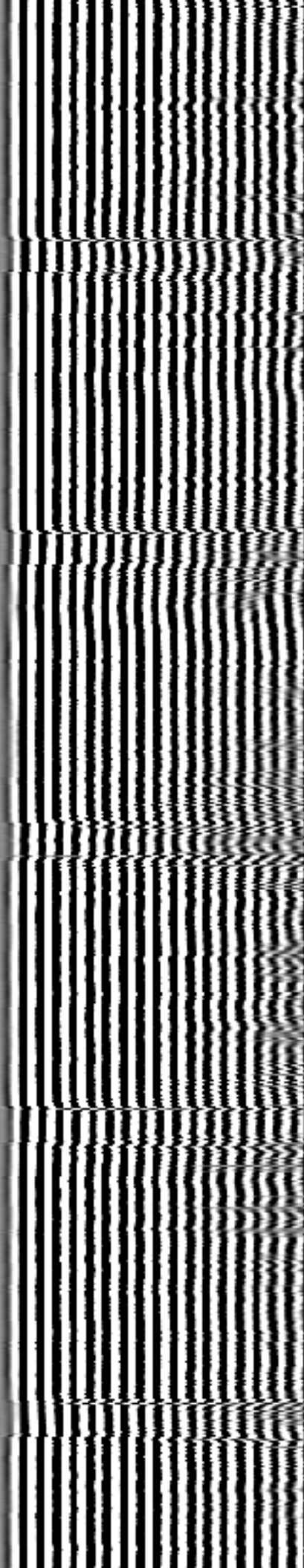
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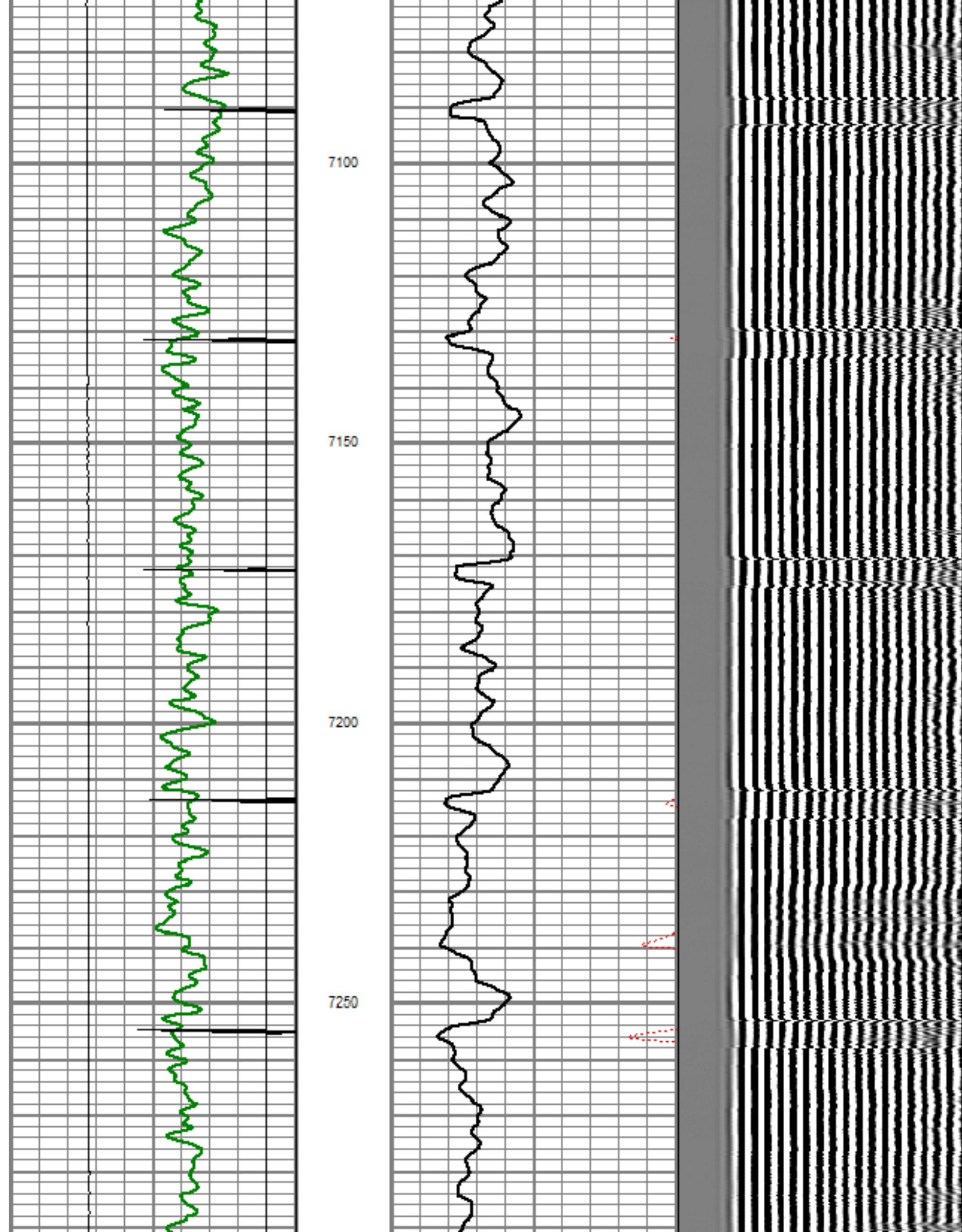
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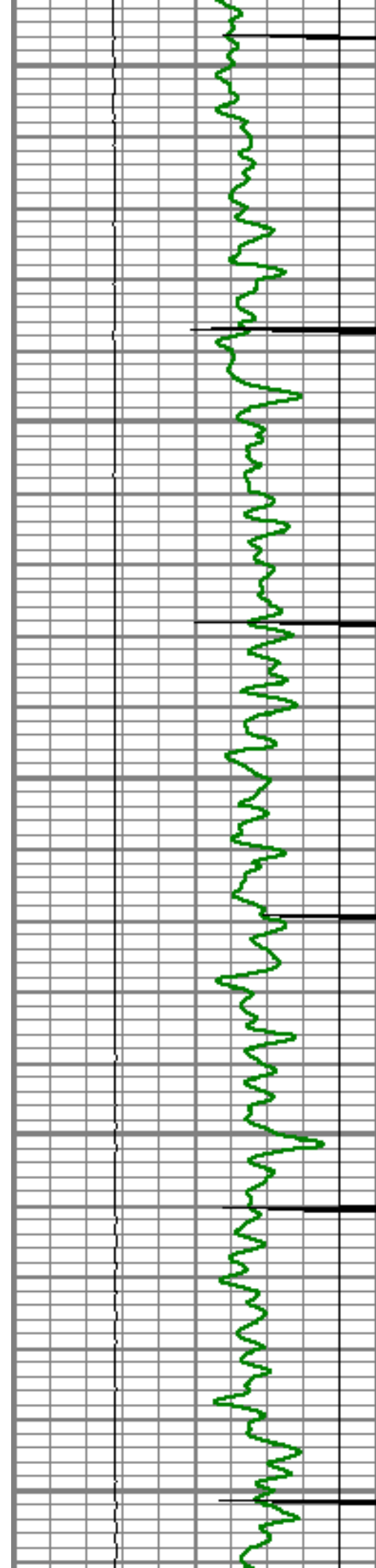


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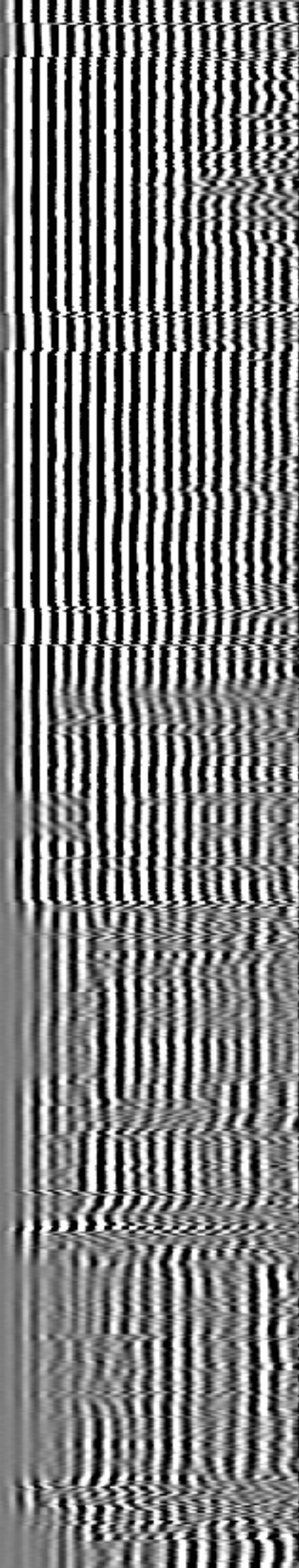
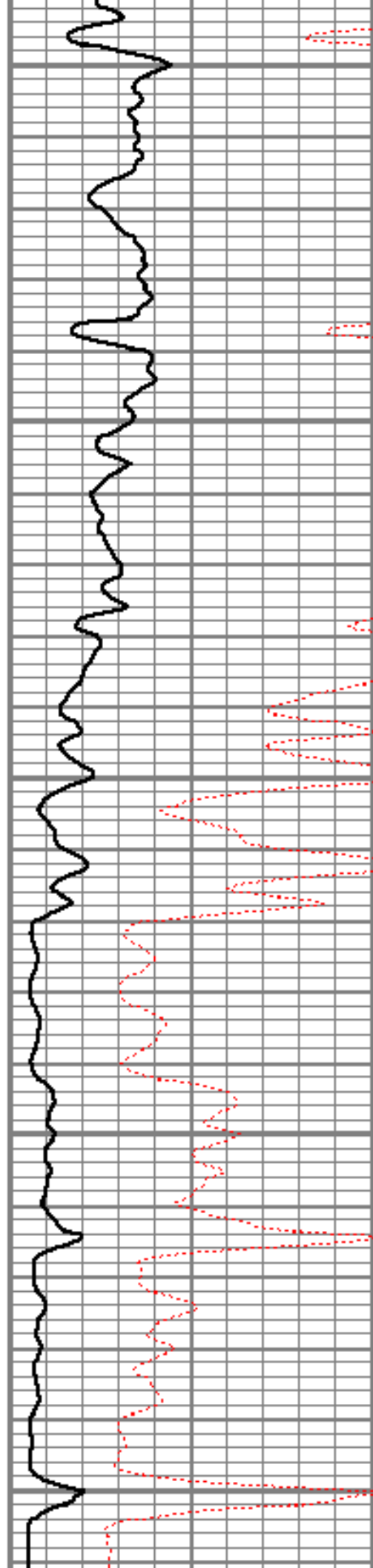
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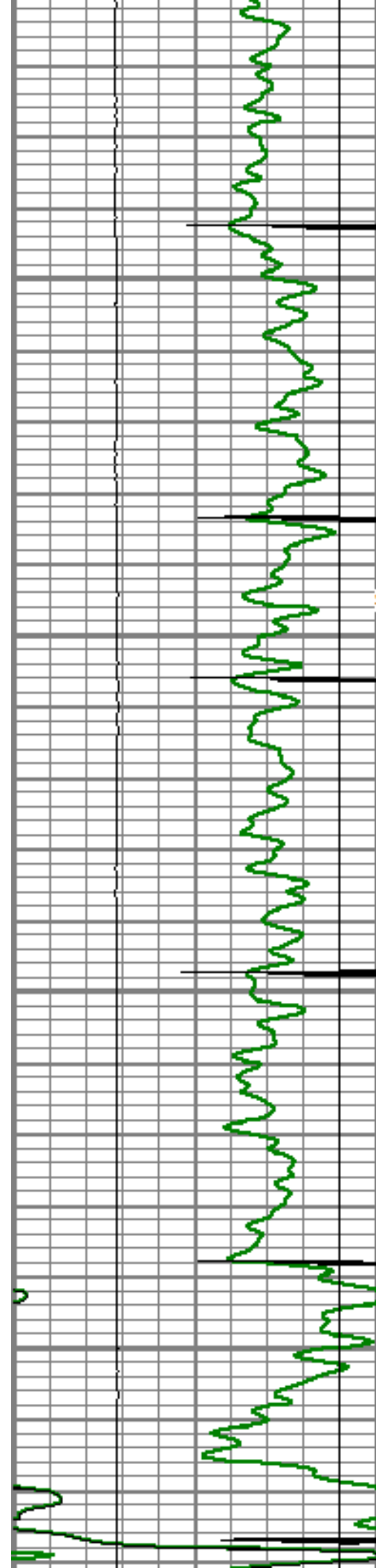
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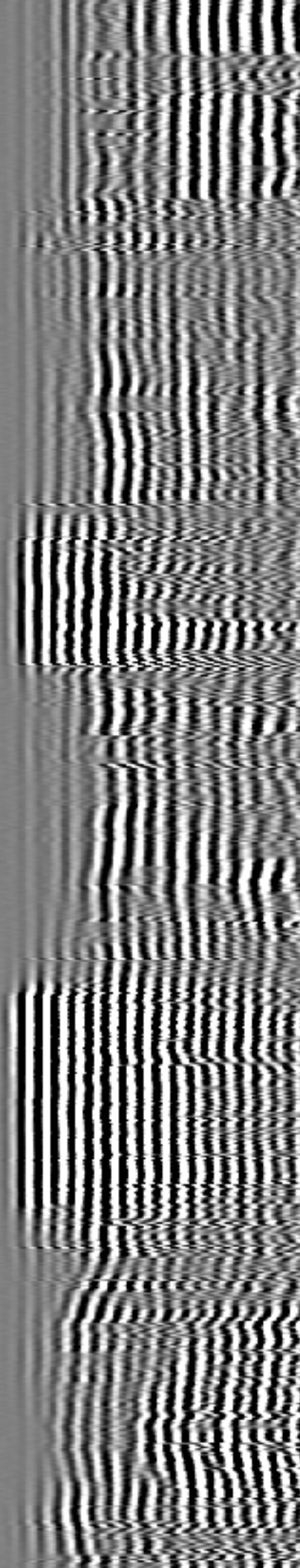
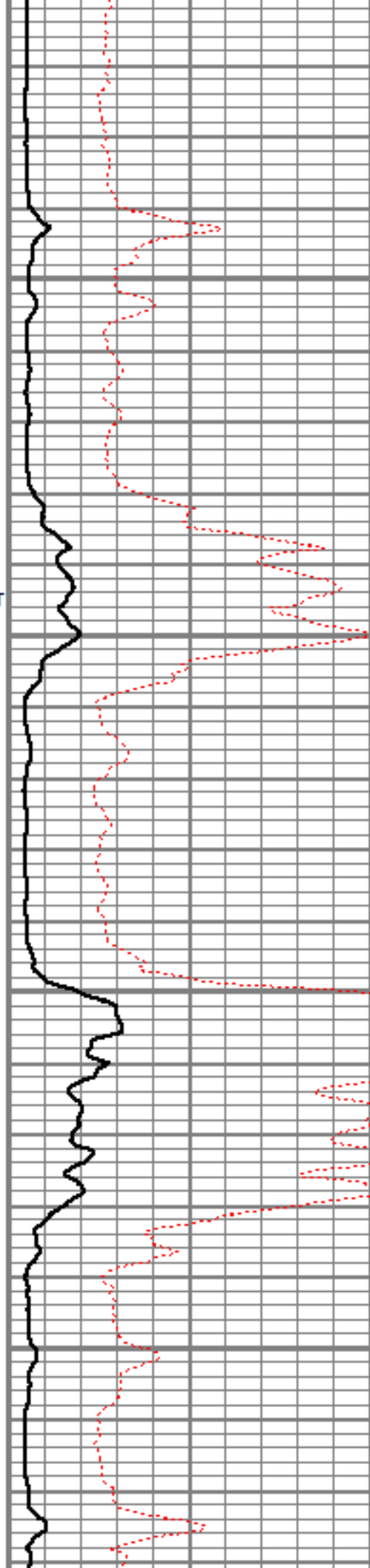
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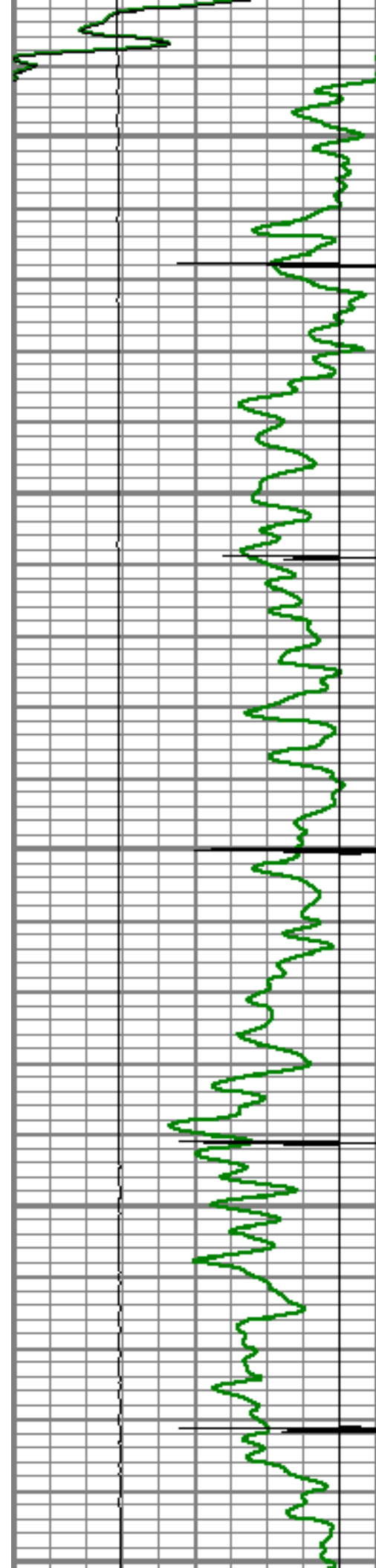
SHORT JOINT

7600

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7700





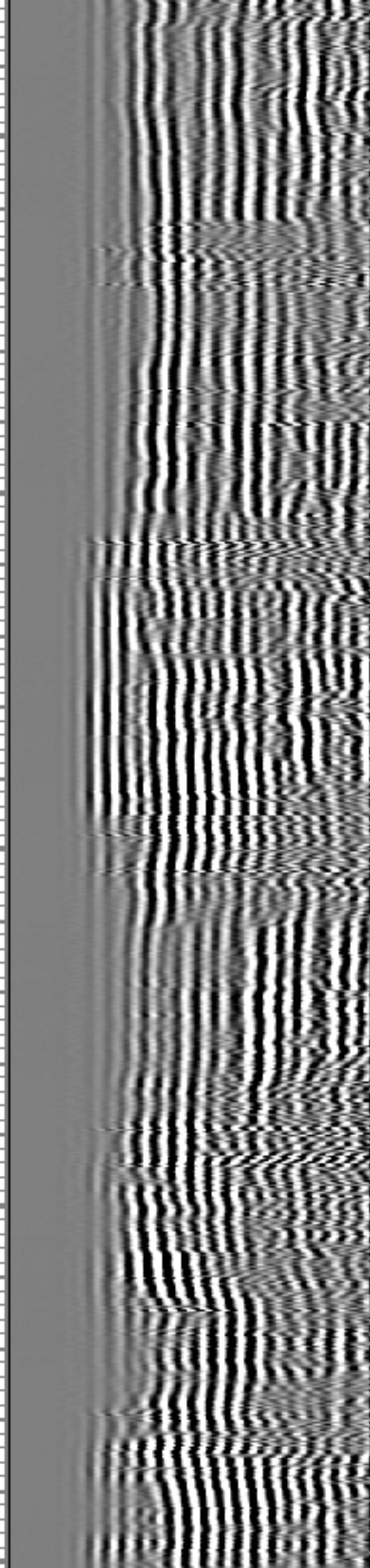
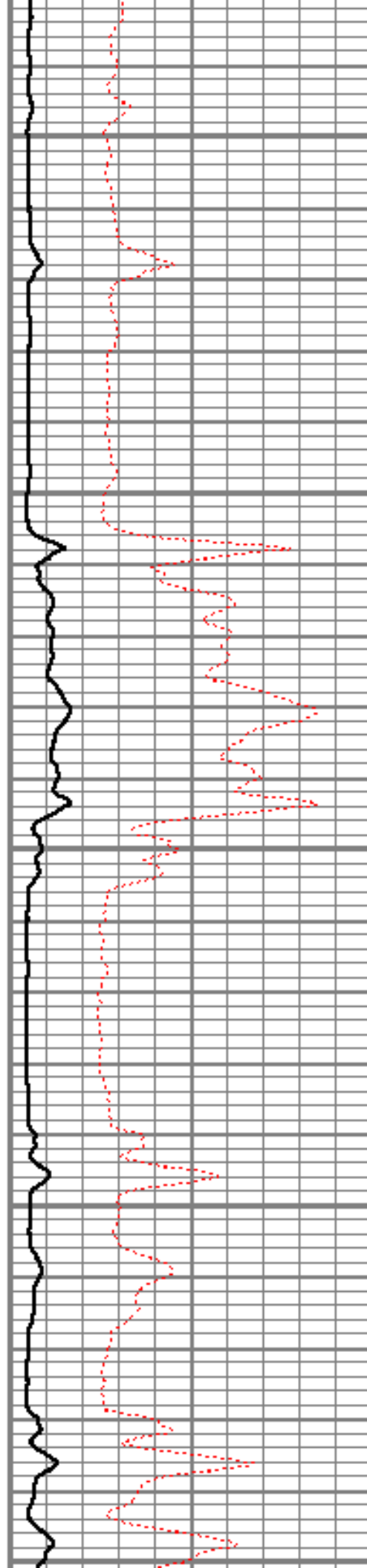
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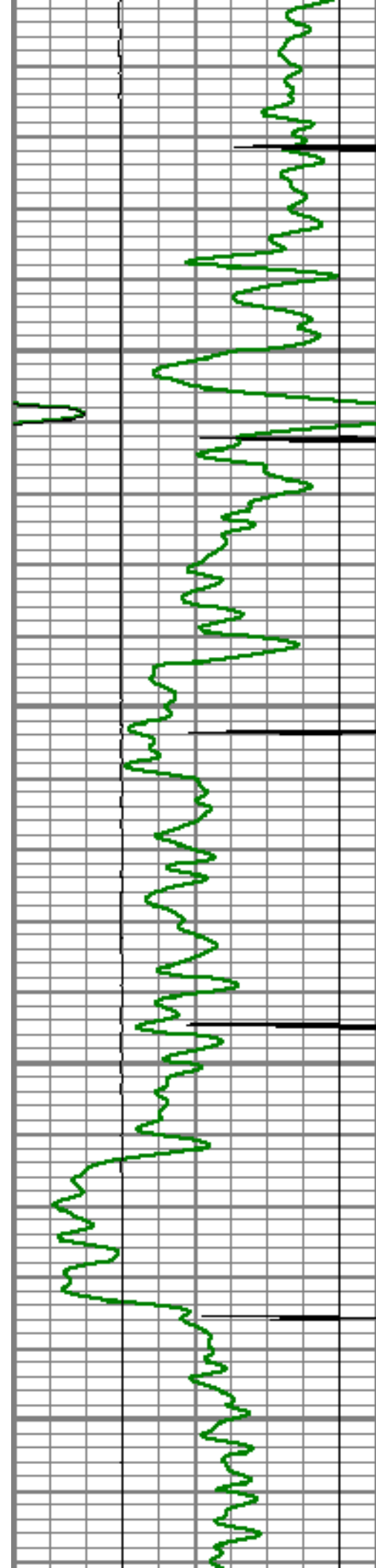
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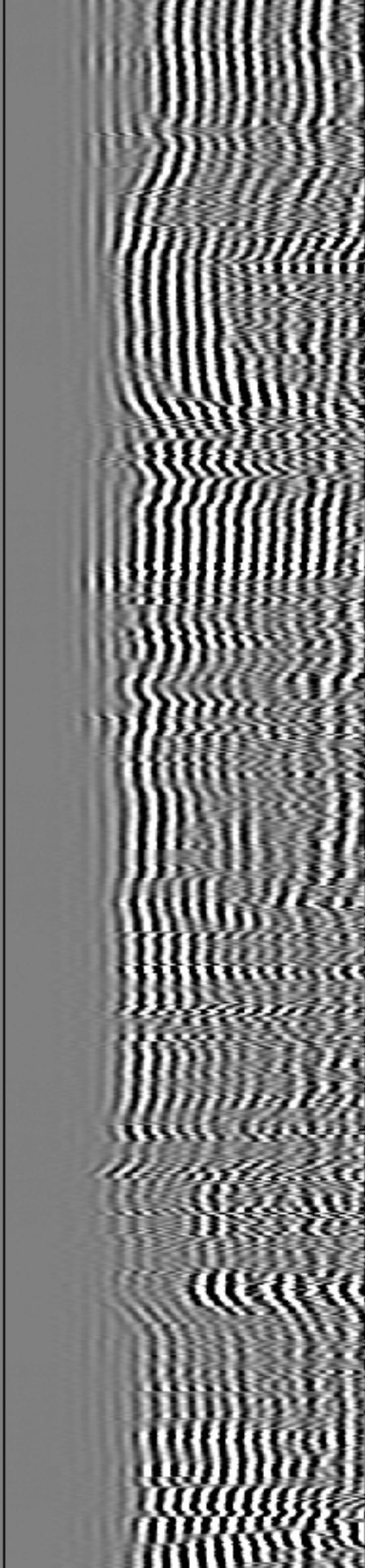
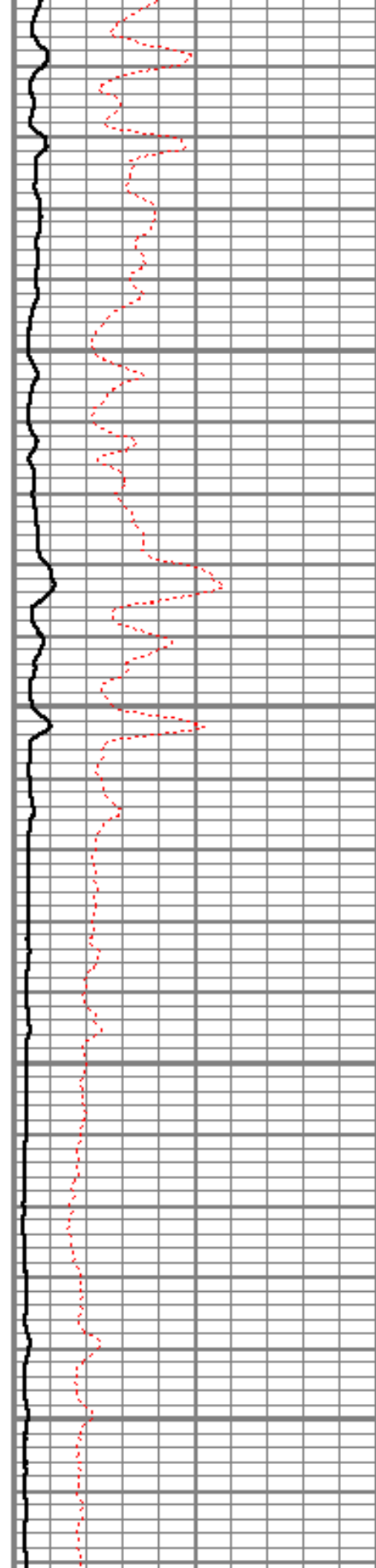


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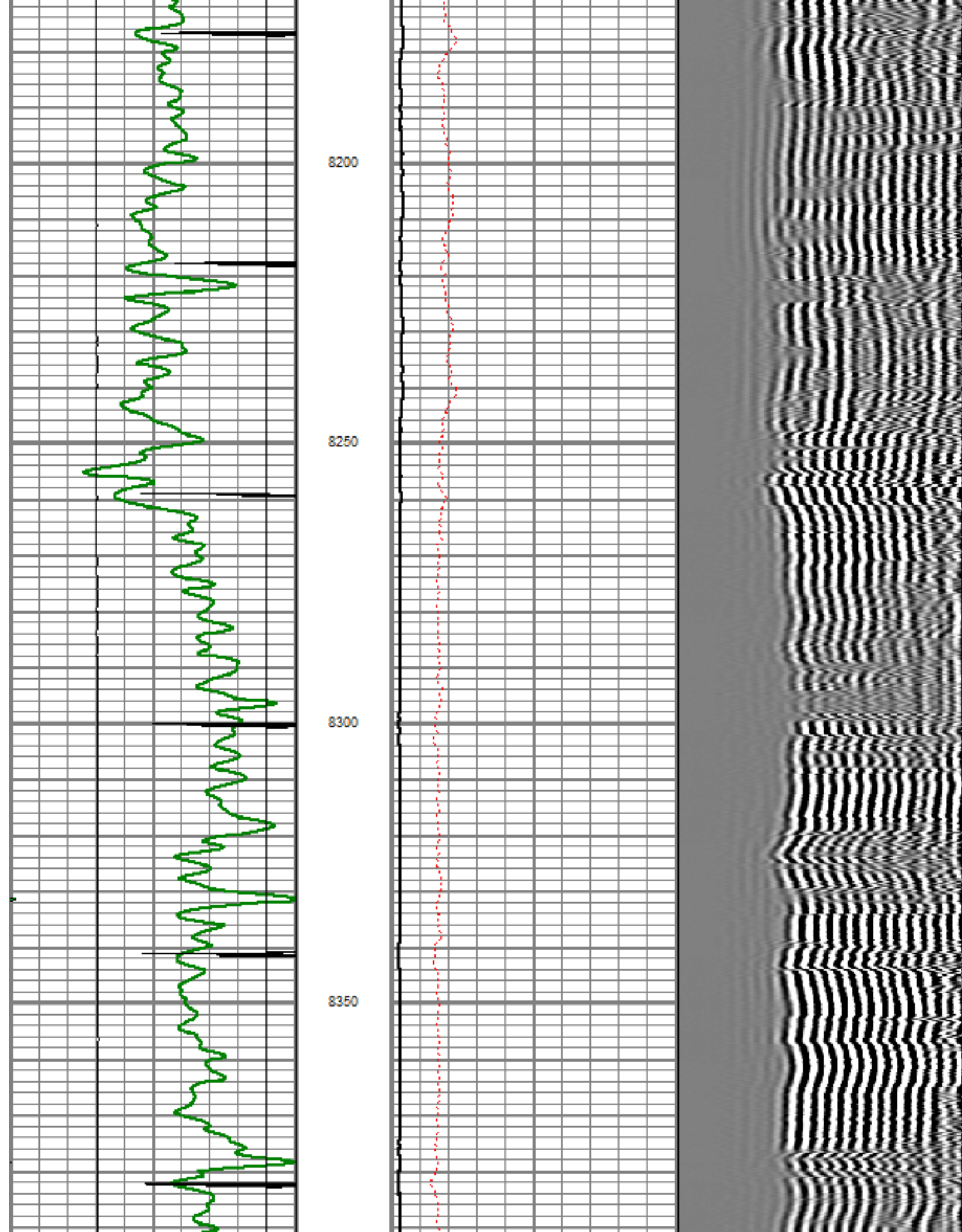
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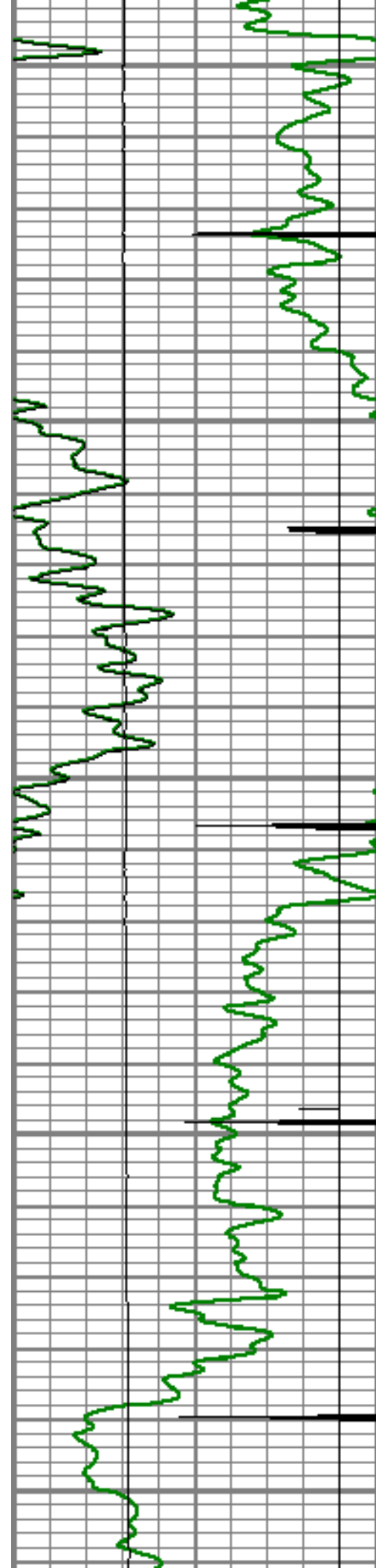
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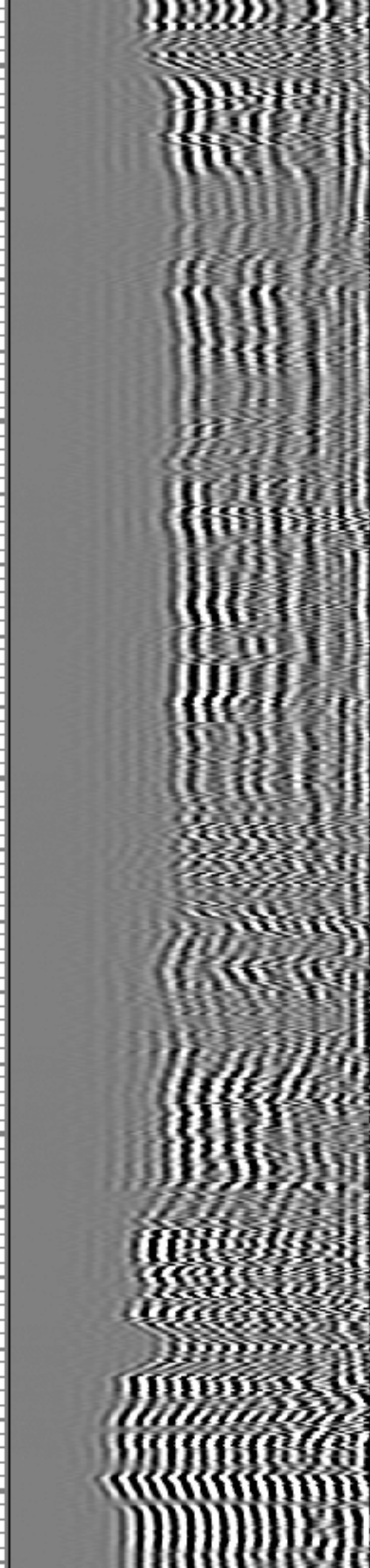
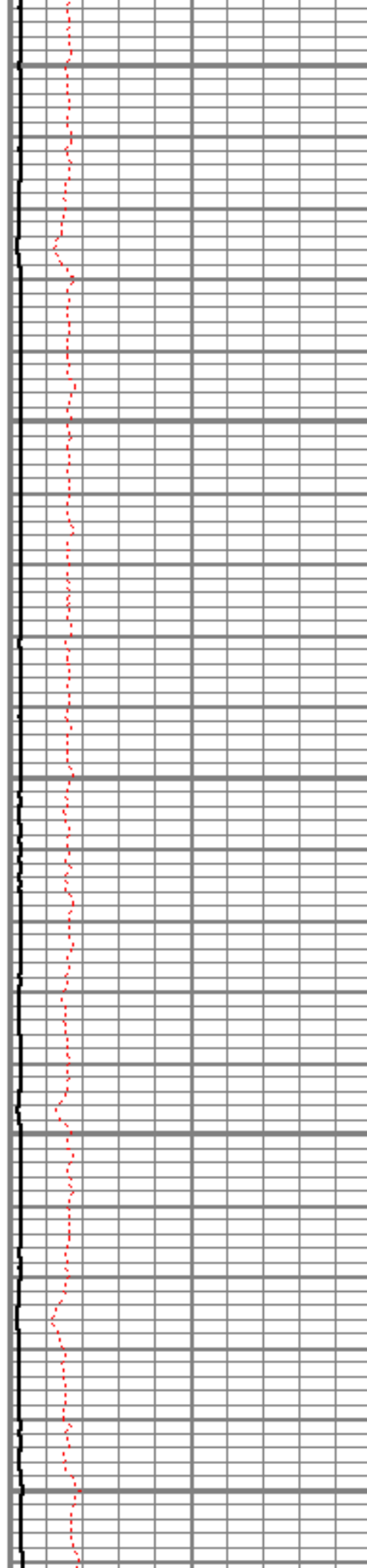
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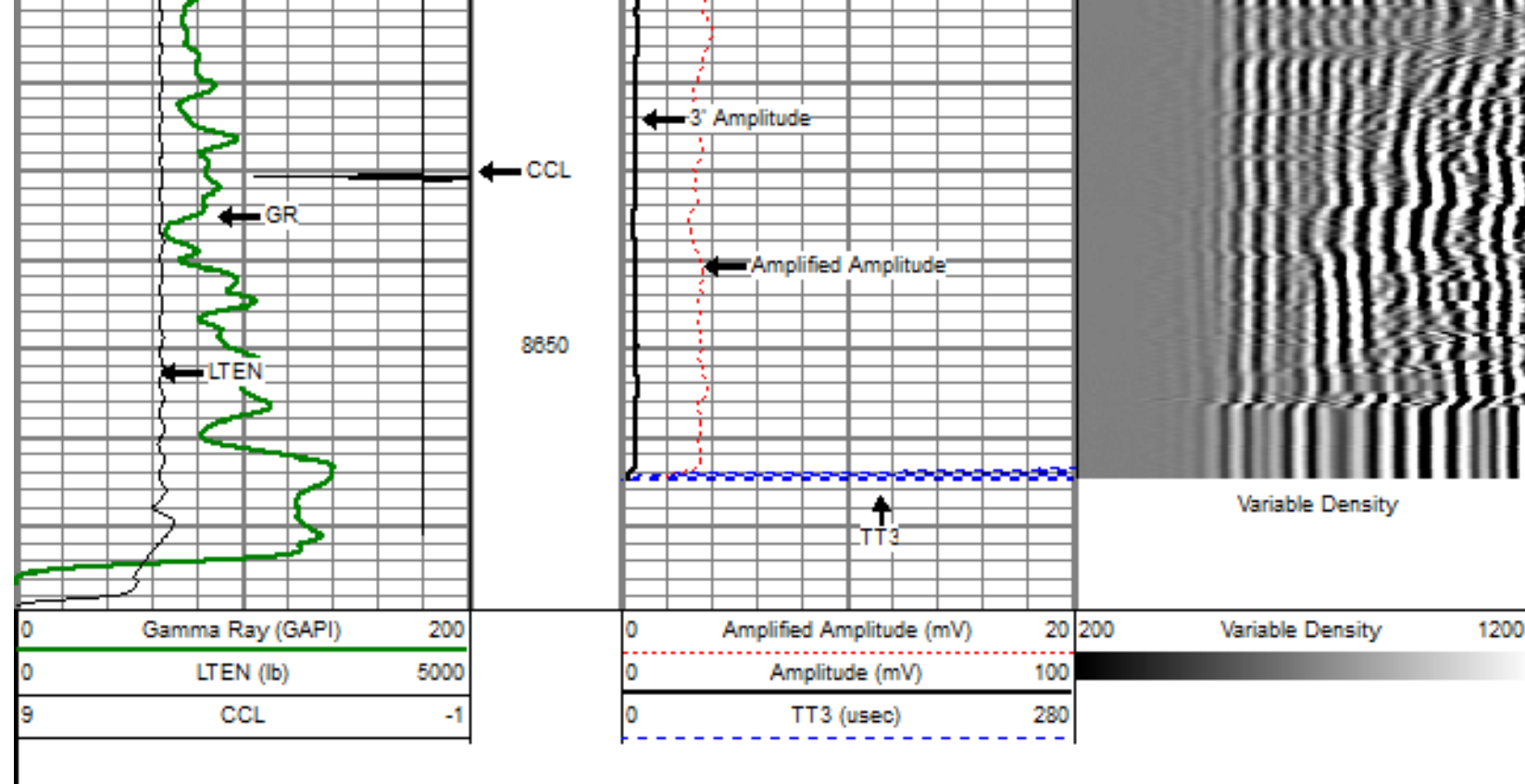
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8600





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			titan Titan Cable Head Go Pin.	1.02	1.44	1.50
			Centralizer-Probe (CENT-PROBE-1) Probe Bowspring Centralizer	2.88	2.75	10.00
WVF3	14.54		CBL-PRB_CBL_DIGITAL (PRB_CBL_DIG_28.77 1) Probe 2.75" Dual Receiver Bond	2.75	2.75	60.00
WVF5	13.54		Centralizer-Probe (CENT-PROBE-2)	2.88	2.75	10.00

			Centralizer-Probe (CENT-PROBE-2) Probe Bowspring Centralizer	2.88	2.75	10.00
CCL	6.50					
			GR-PROBE_GRCCL (PRB_GRCCL_275_01) Probe 2.75" 4 Channel Pulse	4.54	2.75	30.00
GR	3.77					
			TEMP-Comprobe (TEMP_CMPRB_1375_01) Positive pulse Temp tool	2.88	1.38	15.00
TEMP	0.17					
Dataset: crandell 23-26.db: field/well/run1/pass5OH Total Length: 22.98 ft Total Weight: 126.50 lb O.D.: 2.75 in						



Company ENCANA OIL & GAS (USA) INC  
 Well CRANDELL 23-26  
 Field WATTENBERG  
 County BROOMFIELD  
 State COLORADO